

Manufacturers Record

Industry Construction



\$6.50 per Year.
Single Copy, 20 Cents.

Baltimore, Md.
JUNE 19, 1930

The Land of Opportunity

"The South of today is the West of yesterday in opportunity," says the New York Herald Tribune. Calling attention to its recent series of articles on the South Atlantic States, the Herald Tribune asserts:

"The advancing South, based upon present development, flings a challenge to those who have accomplished or hope to accomplish; to those who would have a hand in the building of a new industrial and commercial region. Fame and fortune are not there for the asking, but to be won by leaders and future leaders who will harness existing opportunity to achieve future prosperity."

The author of the South Atlantic States series, "setting forth the amazing industrial and economic development of the 'new' Dixie in 'The Rise of the South,'" is a featured economic writer of the Herald Tribune, who "approaches his subject with the open mind of an unbiased and able analyst trained to uncover commercial possibilities."

The New York Times also has been running in its magazine section special articles on the Southeast.

Proper recognition of the South by the press of the nation has long been delayed. The fact that metropolitan daily papers are beginning to take greater notice of the progress in at least one part of the South is evidence that they could not continue to ignore a development which has commanded the attention of the business leaders of the country.

Week after week through the Manufacturers Record, daily through its Daily Construction Bulletin and yearly through its Blue Book of Southern Progress, the substantial growth of the Southern States, stretching from Maryland to Texas, has been impressed upon those in the South and outside of the South. As in the past, the articles presented by the press of other sections draw upon the reservoir of knowledge of the South gained by the Manufacturers Record in its nearly 50 years of service for the broadest utilization of the manifold resources and the upbuilding of the whole Southern region. Not alone has there been industrial expansion in the Southeastern states, but great papers of the North may well give attention to the Southwest which also is setting a pace for industrial advancement that makes its activity of front page news value.

As an illustration, announcement is just made of mammoth power development projects in North Central Arkansas. The White River Power Company informs the Manufacturers Record that it has filed final application with the Federal Power Commission to construct three hydro-electric stations with an ultimate capacity of 400,000 horsepower, at an estimated cost of \$47,000,000, to meet growing power requirements of this portion of the Southwest.

On such activity is the South building for the future, creating opportunities for employment and strengthening the whole business structure of the nation.



4¢ to 5¢ per Ton for Ash Removal

Edgewater Station of the Ohio Public Service Co. at Lorain, Ohio, has four Bigelow Hornsby boilers, the last unit, added about a year ago, being served by the Hydrojet System of Ash Removal. This 1460 H.P. boiler fired by a Taylor Clinker Grinder Stoker at 300% rating, averages 130,000 lbs. of steam per hour, which requires about 150 tons of coal in 24 hours.

One man daily removes 14 to 18 tons of ashes in 30 to 45 minutes, water being supplied by a 700 G.P.M. pump driven by a 75 H.P. motor, the resulting cost being 4 to 5 cents per ton of ash discharged. The feed nozzles shown in the insert are located behind the door in the large illustration. Ashes are thus fed and carried 75 feet by a high velocity water stream through a totally enclosed system, to a sump in the yard.

Ashes from the older three boilers are dumped into lorry cars and pushed to the sump. If the ashes from the latest unit were handled in this manner, 28 to 36 trips would be necessary. The marked economy of the Hydrojet is thus easily seen. For further information write to the Allen-Sherman Hoff Co., 223 S. 15th Street, Philadelphia, Pa. Offices in principal cities.

HYDRO JET

Nothing Moves but the Ashes

Pump your Ashes!

at OHIO PUBLIC SERVICE CO.

GIVE WOODEN FLOORS NEW LEASE OF LIFE

Lignophol Soaks Into the Wood — Toughens Fibres and Surface—Makes Wood Proof Against Water. Rot and Wear.

A WORKMAN can easily and quickly apply Lignophol to your wooden floors and save many a re-flooring bill.

Lignophol does not form a surface film, easily broken. It *penetrates*—restores the oil-content of the wood, and renews the elasticity and wearability of the wood fibres. Moisture is kept out, and the floor protected against splintering, wear, and other conditions playing havoc with untreated floors.

One delighted user writes: "We have

been a user of Lignophol for the past five years and it has given very satisfactory results. When erecting new buildings we specify all wood floors to be treated with Lignophol."

Be sure to use Lignophol. We can prove that it does the work in the most permanent, satisfactory way. Mail the attached coupon for descriptive literature and letters from users in many fields. Tell us your floor area, so we can advise you of the cost.

L. SONNEBORN SONS, INC., Dept. 31, 114 Fifth Avenue, New York

OTHER PROTECTING PRODUCTS BY

SONNEBORN

CEMCOAT

- A paint that stays white. Can be washed endlessly. Adheres to brick or concrete as easily as wood, metal and plaster

HYDROCID COLORLESS

- For waterproofing exterior of exposed walls.

LAPIDOLITH

- A chemical liquid hardener for hardening and dust-proofing concrete floors.

MR

L. Sonneborn Sons, Inc.

Dept. 31, 114 Fifth Avenue, New York.

Gentlemen: Please send Sonneborn Building Maintenance Book. We are also interested in the following:

.....Painting Concrete Floors;Hardening and Dustproofing Concrete Floors;Preserving Wood Floors;Painting outside surfaces.

Name.....

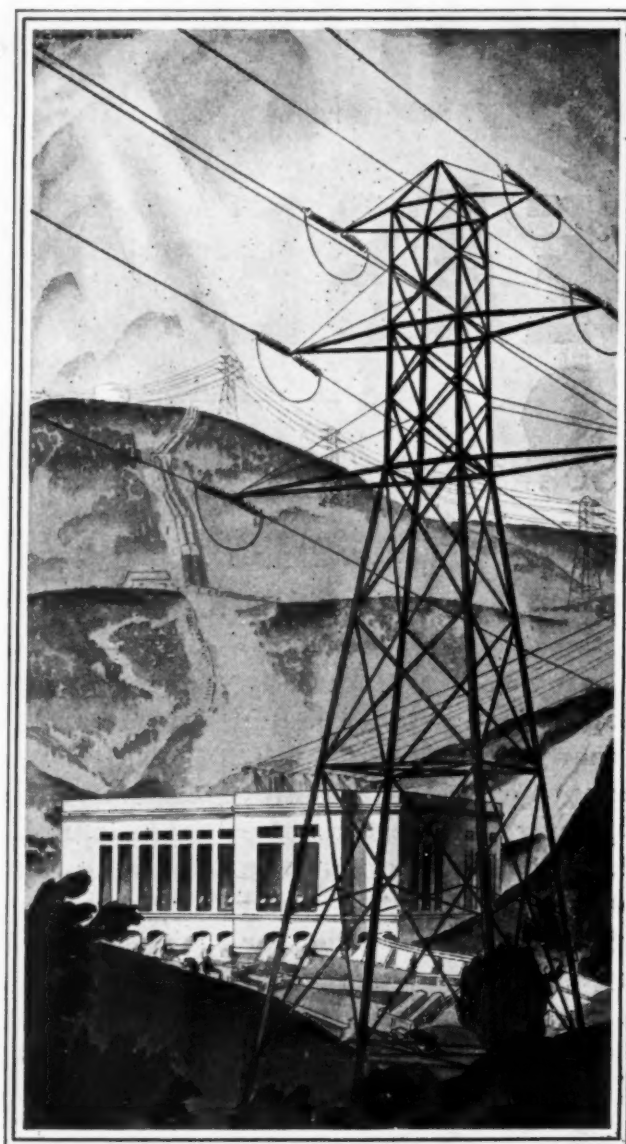
Address.....

❖ ECONOMICS OF THE ELECTRICAL INDUSTRY ❖

The Flow of POWER

speeds the
flow of
Production

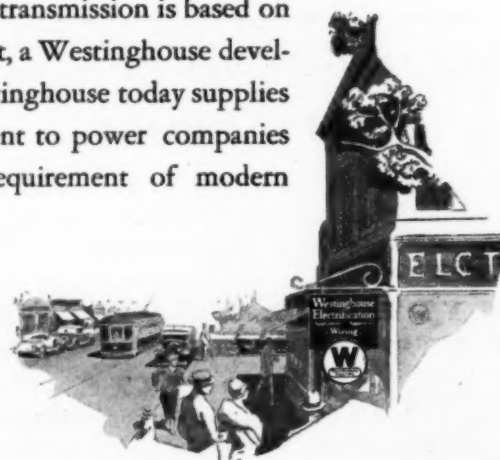
Modern business is tuned to the rhythmical hum of the high-tension power line. Its insistent commands have broken down ancient geographical barriers as old as the first rude paddle-wheel mill. Where once we laboriously carried raw materials to the source of power we now flash power with effortless ease to the logical seat of our production activities — however remote it may be. There we put it to work driving machines, lifting burdens, bringing light, fresh air, heat and comfort—speeding production by making work easier and more pleasant, performing tasks impossible under old methods.



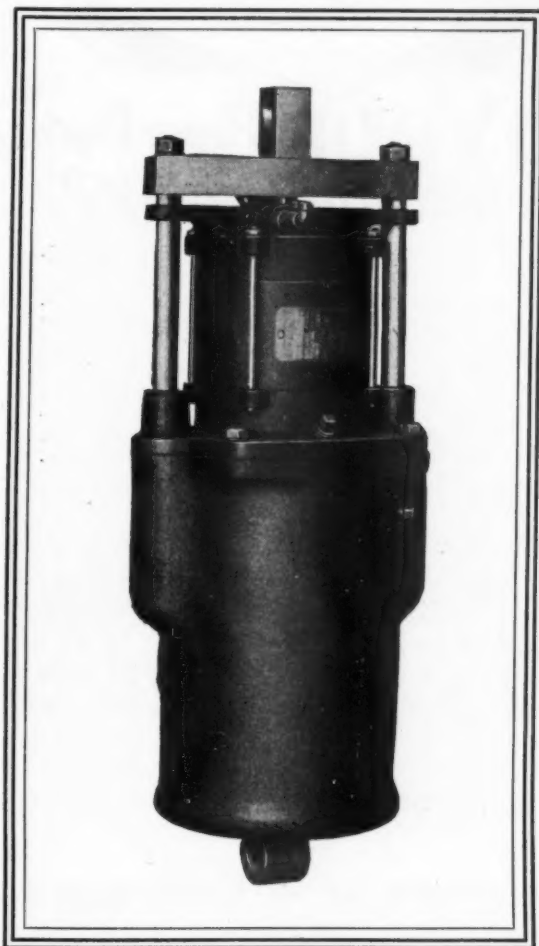
Electric power transmission is based on alternating current, a Westinghouse development, and Westinghouse today supplies electrical equipment to power companies to meet every requirement of modern business.

Tune in the Westinghouse Salute over WJZ and the coast-to-coast network, every Tuesday evening.

Westinghouse



"The CR9504 OPERATOR



What can it do for me?"

THAT'S a fair question. And here's the answer—in part:

It adds greater safety and convenience to the operation of hoists.

It can increase punch-press output as much as 30 per cent.

It is well adapted to opening furnace doors.

It can be used for throwing railroad switches for operating signals.

"Yes, but solenoids can be made to do all that too."

Maybe they can, but no solenoid can equal the smooth and quiet operation of the CR9504 operator.

No solenoid can equal it in these distinctive features:

1. Wide range of travel
2. Low inrush current
3. Constant torque

The CR9504 operator produces straight-line motion from the rotary action of its motor-driven impeller. There are no mechanical connecting links—only the smooth pressure of oil against a piston. And if you stall the piston, there's nothing to burn out. Dangerous overloading of this device is impossible.

Simplicity, dependability, maximum economy, and safety—the CR9504 operator has them all in full measure. It is available in a wide range of sizes to meet every need; it is adaptable for practically all sources of power. Ask the industrial specialists in the nearest General Electric office about the CR9504.

JOIN US IN THE GENERAL ELECTRIC HOUR,
BROADCAST EVERY SATURDAY EVENING ON
A NATION-WIDE N.B.C. NETWORK



301-51

GENERAL ELECTRIC

SALES AND ENGINEERING SERVICE IN PRINCIPAL CITIES

Every Belt Conveyor Deserves S-A CARRIERS

Gauge a conveyor carrier by the ultimate cost of handling material not by the initial purchase price. Mechanical advantages resulting from sound design assure years of dependable service life with these S-A carriers.

Write for interesting description of the newer type S-A carriers.

SOUTHERN SALES
OFFICE

1108 Martin Bldg.

BIRMINGHAM, ALABAMA



STEPHENS-ADAMSON

STEPHENS-ADAMSON MFG. CO.,
Aurora, Illinois — Los Angeles, California — Belleville, Ontario, Canada



DO YOUR Paper Boxes Bespeak of Quality?

The attractiveness of the box in which your product is packed oftentimes influences a sale.

The very appearance of Old Dominion boxes bespeaks of quality, for these are "individualized" boxes, made especially for your requirements, and with your own design on them you have a quality box that commands and gets attention. Our five centrally located plants can give you prompt service on your box requirements—any type or size. Samples and quotations given without obligation.

OLD DOMINION BOX COMPANY, INC.
Lynchburg, Va.

Winston-Salem, N. C. Burlington, N. C. Ashboro, N. C. Charlotte, N. C.

quality OLD DOMINION
Paper Boxes

FIFTY YEARS

Experience in the designing and
manufacturing of

MATERIAL HANDLING EQUIPMENT

puts us in a position to supply equipment of proven
worth at the lowest possible price.

Call on us for

Apron Conveyors

Belt Conveyors

Chain Conveyors

Gravity Roll Conveyors

Spiral Conveyors

Bucket Elevators

Elevator Buckets

Skip Hoists

Car Pullers

Sheet Metal and Structural Steel Work

THE WEBSTER & WELLER MFG. COMPANIES

1820-1856 N. Kostner Ave.

CHICAGO, ILL.

Offices in the principal cities

(Hand Chain Hoists)

The terms of a Guarantee

The Harrington Peerless ("unbreakable—all-steel") hand chain hoist, carries a guarantee: Peerless Gears are guaranteed against abnormal wear or break for five years. The guarantee is backed by our 60 years of hoist-making experience. Get details on the Peerless Hoist.

THE HARRINGTON COMPANY
PHILADELPHIA



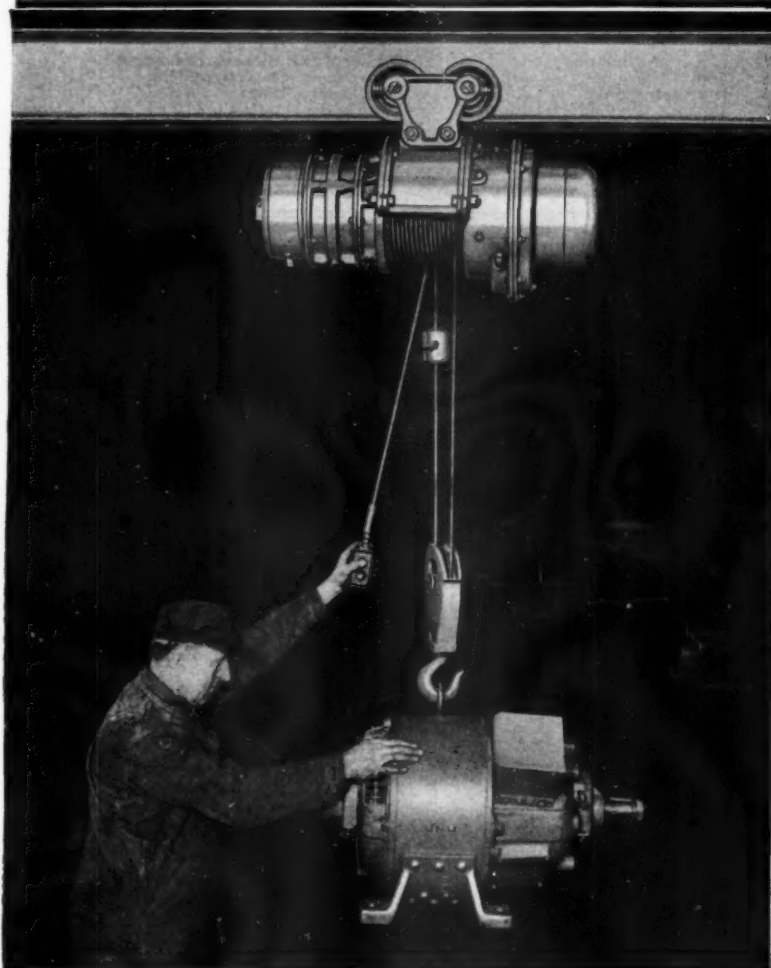
CHARLOTTE LEATHER BELTING CO.

Plant and Office, Charlotte, N. C.

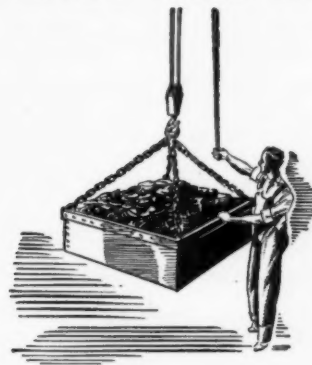
Branch, 162 N. Clinton St., Chicago

MAKERS OF LEATHER BELT SINCE 1894

Milwaukee Hoists



..... sponsored by
Harnischfeger Corporation and Milwaukee
Crane World's
largest builders of
Cranes and Hoists



MILWAUKEE HOISTS are the joint product of the engineering skill of Harnischfeger and Milwaukee Crane engineers. They embody all the experience gained in building electric cranes and hoists for more than thirty-five years.

MILWAUKEE FEATURES

- High Speeds
- Push Button Control
- Roller Bearing Throughout
- All Adjustments Made Externally
- Double Drive Hoist Gearing
- All Loads Carried by Steel Members
- Forged Heat-Treated Gears and Pinions
- Forged Steel Trolley Wheels
- Ball Bearing Motors Especially designed for Hoist Service
- Limit Switch Safest Type Known to Engineers

You can expect the same dependable performance of Milwaukee Hoists that you have experienced with P & H and Milwaukee Cranes and be assured of the same full measure of the builder's responsibility.

The mechanical features of Milwaukee Hoists that will interest you are: high speed operation; low upkeep costs because of simple construction and the use of high grade materials throughout (forged steel trolley wheels, alloy steel shafts ground to size, forged heat-treated gears and pinions); compact without sacrifice of accessibility; single or variable speed control, oil bath lubrication for gears and brake; full roller bearing equipped . . .

Write for complete information.

MILWAUKEE ELECTRIC CRANE & HOIST CORPORATION
Division of Harnischfeger Corporation
MILWAUKEE, WISCONSIN



MILWAUKEE

LOW HEADROOM CRANES 3 TO 30 TONS
STANDARD CRANES TO 50 TONS



ESTABLISHED 1868

THE BABCOCK & WILCOX COMPANY

85 LIBERTY STREET, NEW YORK

Manufacturers of

Water-Tube Boilers, Steam Superheaters, Air Preheaters, Economizers,
Chain Grate Stokers, Oil Burners and Refractories.
Pressure Vessels and Special Process Equipment.

BRANCH OFFICES

ATLANTA, Candler Building
BOSTON, 80 Federal Street
CHICAGO, 20 North Wacker Drive
CINCINNATI, Traction Building
CLEVELAND, Guardian Building
DALLAS, TEXAS, Magnolia Building
DENVER, 444 Seventeenth Street

DETROIT, Ford Building
HOUSTON, TEXAS, Electric Building
LOS ANGELES, Central Building
NEW ORLEANS, 344 Camp Street
PHILADELPHIA, Packard Building
PHOENIX, ARIZ., Heard Building
PITTSBURGH, Koppers Building

PORTLAND, ORE., Failing Building
SALT LAKE CITY, Kearns Building
SAN FRANCISCO, Sheldon Building
SEATTLE, Smith Tower
HONOLULU, T. H., Castle & Cooke Building
HAVANA, CUBA, Calle de Aguiar 104
SAN JUAN, PORTO RICO, Recinto Sur 51

CHARLESTON DRY DOCK & MACHINE CO.

Successors to VALK & MURDOCH CO.

MARINE AND STATIONARY BOILERS
Repairs to Steel and Wooden Vessels

8,000-ton Dry Dock—1,500 and 600-ton Marine Railways

CHARLESTON, S. C.

Vogt

PRODUCTS

REFRIGERATING AND ICE
MAKING MACHINERY—
WATER TUBE & HORIZONTAL
RETURN TUBULAR BOILERS
DROP FORGED STEEL VALVES
& FITTINGS—OIL REFINERY
EQUIPMENT—Ask for Bulletin

HENRY VOGT MACHINE CO., Manufacturers, Louisville, Ky.

BOILERS SAW MILLS

Largest Works of the Kind in the South
Engines—Pumps—Boiler Tubes—Grate Bars—Castings
LOMBARD IRON WORKS & SUPPLY CO.
AUGUSTA, GA.
Reinforcing Bars—Structural, Bar and Sheet Steel
Parts and Repairs Belting—Packing

TANKS STACKS

BRICK—CHIMNEYS—CONCRETE

BOILER BRICKWORK

The Rust Engineering Co.

Engineers and Contractors

BIRMINGHAM, ALA.

PITTSBURGH—WASHINGTON—NEW YORK—CHICAGO



RETURN TUBULAR BOILERS

STEEL CASINGS

STACKS BREECHINGS

TANKS for every purpose
FABRICATED STEEL PLATES

Up to 3" Thick

WRITE FOR PRICES

THE HEDGES WALSH WEIDNER CO.

Main Office and Works
CHATTANOOGA, TENNESSEE

EASTERN OFFICE
200 MADISON AVE., NEW YORK, N. Y.

Subsidiary International Combustion Engineering Corporation



10 F 21

Sizes and Types of Hand and Motor Operated Cold Pipe
Bending Machines we make—bending $\frac{1}{4}$ " to 8" Pipe.

Lead the World in Sales and Performance

Cost of Bending

1"—3 cents	3"—20 cents	6"—60 cents
2"—5 cents	4"—40 cents	8"—\$1.00

American and Foreign Patents

Over 8,000 in use. Send for Printed Matter and Prices

American Pipe Bending Machine Co., Inc.,

11 Pearl Street, Boston, Mass.



Biggs Welded or Riveted
High Pressure Tanks,
Vessels, Retorts, and Steel
Plate Construction of
every description. Write
for folder shown at left.



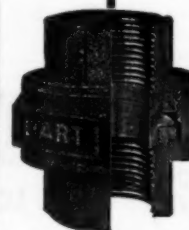
THE BIGGS BOILER WORKS CO.
Kent and Bank Streets, Akron, Ohio

THE QUALITY UNION

The Dart is the Quality Union, and
quality is always cheapest.

The Dart is made of Malleable Iron,
with extra heavy pipe ends and with
double seated ball joint formed of
bronze rings.

IN DART UNION THERE IS DOUBLE STRENGTH



E. M. DART MFG. CO.
PROVIDENCE, R. I.

The Fairbanks Company, Sales Agent
Dart Union Co., Ltd., Toronto, Canada.

The Trail Breaker!

**YESTERDAY,
TODAY, TOMORROW**



LUNKENHEIMER
BRONZE
Regrinding
Valves

THE LUNKENHEIMER CO.
"QUALITY"
CINCINNATI, OHIO, U.S.A.
NEW YORK CHICAGO BOSTON PHILADELPHIA
PITTSBURGH SAN FRANCISCO LONDON
EXPORT DEPT 310-322 HUDSON ST., NEW YORK



LUNKENHEIMER

VALVES



3-68-62

SPECIALISTS



Branch Offices:

351 Whitehall St.,
Atlanta, Ga.
393 N. Main St.,
Memphis, Tenn.
1221 S. Lamar St.,
Dallas, Texas
1325 Macklind Ave.,
St. Louis, Mo.
5 Briarwood Rd.,
Charlotte, N. C.
1100 Milby St.,
Houston, Texas
816 Howard Ave.,
New Orleans, La.



NORTHWEST

◆ in the design and construction of
gasoline, electric and oil powered
shovels, cranes, draglines,
pullshovels... and
skimmer-scoops

THROUGH all these years of manufacture Northwest has not been enticed by the green pastures of other classes of machinery. The whole attention of the Engineering Department has been devoted to the production of gasoline and electric shovels, cranes, draglines, pullshovels and skimmer-scoops—machines definitely related to each other.

Specialization has made Northwest the standard toward which others build! There have been no old traditions or beliefs to retard progress.

Come to Specialists!

NORTHWEST ENGINEERING CO.

The world's largest exclusive builders of gasoline, oil burning and electric powered shovels, cranes and draglines

1733 Steger Building

28 E. Jackson Boulevard

Chicago, Ill., U. S. A.



NORTHWEST

The Measure of Wire Rope Quality is the **SERVICE** it has Rendered

Which wire rope to use on your equipment—which brand will give the longest and most economical service—may be best determined by past records of performance established under similar operating conditions. This and the reputation of the maker are of paramount importance.



For over half a century American Wire Rope, made exclusively by the American Steel & Wire Company, has demonstrated its superiority—proved beyond question that its tough, flexible and abrasion-resistant nature is the best insurance against breakdowns and costly delays.

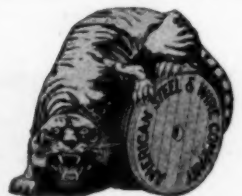
Regardless of your particular problem, you will find an American Wire Rope exactly adapted to its economical solution. Consult our nearest branch office or distributor to get the right rope for your purpose.

AMERICAN STEEL & WIRE COMPANY WIRE ROPE

AMERICAN STEEL & WIRE COMPANY

SUBSIDIARY UNITED STATES STEEL CORPORATION

208 S. La Salle Street, Chicago
 Other Sales Offices: Atlanta Baltimore Birmingham Boston Buffalo Cincinnati Cleveland
 Dallas Denver Detroit Kansas City Memphis Milwaukee Minneapolis-St. Paul
 Oklahoma City Philadelphia Pittsburgh Salt Lake City St. Louis Wilkes-Barre Worcester
 U. S. Steel Products Co.: San Francisco, Los Angeles, Portland, Seattle, Honolulu
 Export Distributors: United States Steel Products Co., 30 Church St., New York City



Goldens' Foundry & Machine Co.

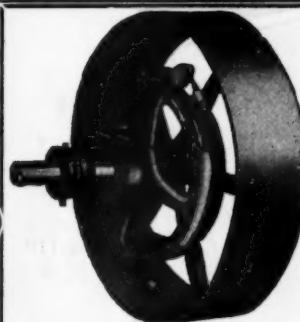
COLUMBUS, GEORGIA

MANUFACTURERS OF

**MACHINE MOULDED PULLEYS
HANGERS SHAFTING**

Couplings, Pillow Blocks, Floor Stands, Collars, etc.

Send for Price List and Discount Sheet

**Confidence**

There will never be any feeling of uncertainty when you have installed Caldwell Friction Clutches in your plant. They inspire confidence. Their extreme simplicity and strength make them positively trouble-proof—assure you of uninterrupted service year after year. The Caldwell Clutch is constructed like the standard automobile brake, a flexible band lined with asbestos gripping the entire circumference of the friction ring and transmitting all the power instantly. One lever controls, one screw adjusts it. Don't be satisfied with poor clutch service; get a Caldwell.

Send for Catalog.

W. E. Caldwell Co., Incorporated
270 E. Brandeis St., Louisville, Ky.

Caldwell
FRICTION
CLUTCHES

Roebbling

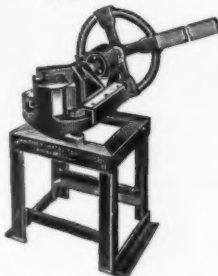
"Blue Center"

STEEL WIRE ROPE

John A. Roebbling's Sons Company, Trenton, New Jersey

Angle Iron Notcher Angle Iron Bender
 No. 60 No. 61
**BALL BEARING**

This Notcher and Bender has a Capacity of 3"x3"x1/4" Angle



Write for Catalog and Price List on Entire Line

WHITNEY METAL TOOL COMPANY
117 FORBES STREET ROCKFORD, ILL.

COMPLETE FOUNDRY SERVICE

The MOCCASIN BUSHING COMPANY, manufacturers of MOCCASIN OIL DISTRIBUTING BUSHINGS, is prepared to supply engine brasses, brass or bronze castings of all descriptions and MOCCASIN solid or cored bronze bars at reasonable prices.

Send your specifications to the **MOCCASIN BUSHING COMPANY**, 2000 Chestnut Street, Chattanooga, Tennessee. Your order will receive our prompt attention.

GALVANIZING—Hot Process

Cadmium Plating a Specialty

GALVANIZED PRODUCTS FURNISHED
BIRMINGHAM GALVANIZING CO.
Birmingham, Ala.

WE MAKE A SPECIALTY OF HIGH GRADE GREY IRON AND SEMI-STEEL CASTINGS

All Kinds of Machine Work. Special Machines Made to Order.
Prices Will Suit You. Prompt Service.

Salem Foundry & Machine Works Salem, Va.

GALVANIZING HOT DIPPED PROCESS

The largest job galvanizing plant in the United States
GALVANIZED PRODUCTS FURNISHED

JOSEPH P. CATTIE & BROTHERS
PHILADELPHIA, PA.

ELECTRIC STEEL CASTINGS

Weighing from 1 lb. to 500 lbs. each

Quantity Production A Specialty

Nickel, Chrome and Other Alloy

Quick Delivery

Inquiries Solicited

CRUCIBLE STEEL CASTING COMPANY

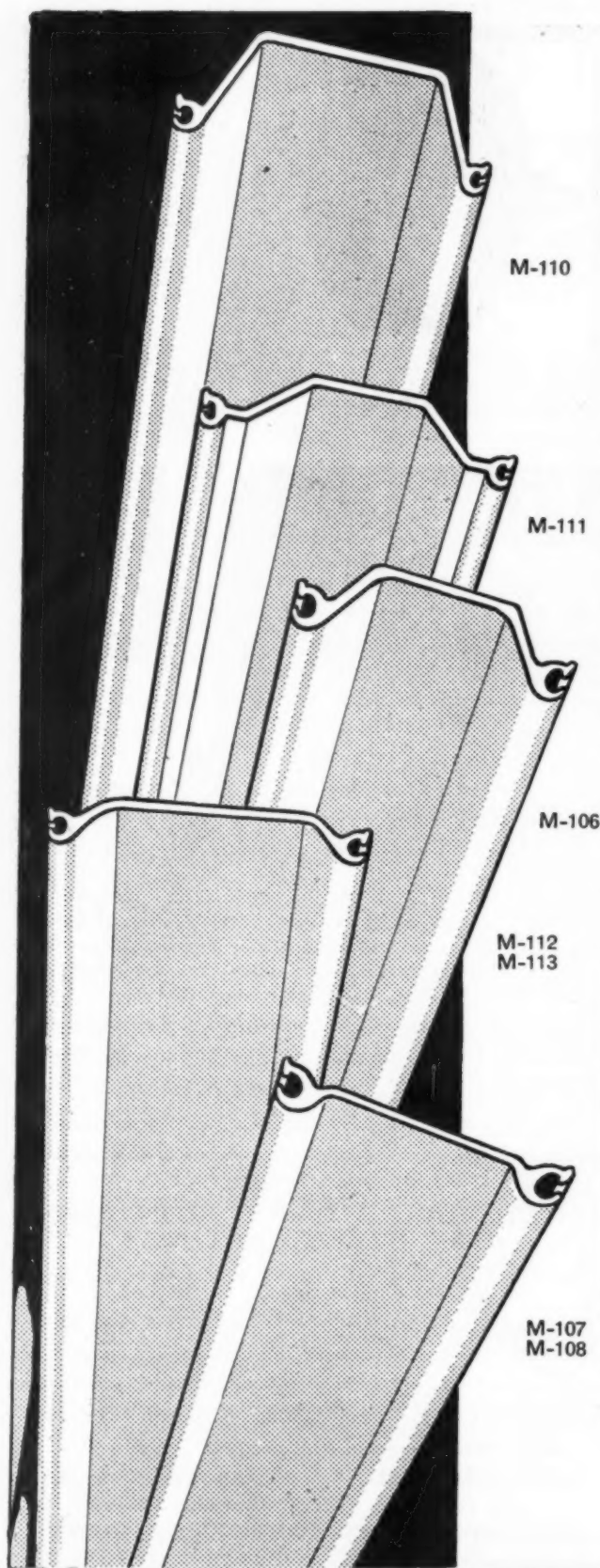
LANSDOWNE, DELAWARE COUNTY, PA.

PATTERNS

We make delivery promptly on your pattern work,
under guaranteed quotations. Express Prepaid

A. W. HAAS PATTERN CO.
179 1/2 Garnett St. S. W. Atlanta, Ga.

DEPENDABLE CASTINGS
Shipped
PROMPTLY
DEEMER STEEL CASTING CO.
PATTERN
and
MACHINE WORK
DEEMER STEEL CASTING CO.
NEW CASTLE, DELAWARE



CARNEGIE Steel Sheet Piling

WITH the recent introduction of several new sections, Carnegie Steel Company is now prepared to supply steel sheet piling eminently suitable for any driving condition. All sections are characterized by short stiff interlocks to give strength against pulling apart, yet providing sufficient clearance for ease of driving and flexibility of joints. The circuitous route which water must travel through the interlock affords opportunity for lodgment of solid materials in the interlock, insuring practical watertightness.

Our engineers are at your service and will gladly consult with you on problems involving your steel requirements.

Section	Driving Width	Web Thickness	Weight per Foot	Weight per Square Foot of Wall	Section Modulus per Single Piece	Section Modulus per Foot of Wall
M 106	14 in.	$\frac{3}{8}$ in.	36.9 lb.	31.6 lb.	10.34 in. ³	8.86 in. ³
M 107	15 in.	$\frac{3}{8}$ in.	38.4 lb.	30.7 lb.	4.10 in. ³	3.28 in. ³
M 108	15 in.	$\frac{1}{2}$ in.	42.8 lb.	34.2 lb.	4.10 in. ³	3.28 in. ³
M 110	16 in.	$3\frac{1}{64}$ in.	42.6 lb.	32.0 lb.	20.34 in. ³	15.26 in. ³
M 111	16 in.	$\frac{3}{8}$ in.	29.3 lb.	22.0 lb.	7.74 in. ³	5.80 in. ³
M 112	16 in.	$\frac{3}{8}$ in.	30.6 lb.	23.0 lb.	2.50 in. ³	1.88 in. ³
M 113	16 in.	$\frac{1}{2}$ in.	36.2 lb.	27.2 lb.	3.28 in. ³	2.46 in. ³

CARNEGIE STEEL COMPANY

Subsidiary of United States Steel Corporation

PITTSBURGH, PA.

56

CARNEGIE STEEL SHEET PILING

MAXIMUM TENSILE STRENGTH AND ELASTICITY



**ROLLED FROM
NEW BILLET
STEEL**

GULFSTEEL
bars were used for the
gigantic Wilson Dam
at Muscle Shoals



GULFSTEEL CONCRETE REINFORCING BARS

In structural jobs where maximum strength and elasticity are *requisite*—GULFSTEEL Deformed Concrete Reinforcing Bars are selected. Why? Because they are rolled from *new billet steel*; because they are manufac-

tured in strict accordance with ASTM specifications; because deformations are uniform in size and spaced evenly. Complete stock of all standard weights and lengths ready for immediate shipment. Send us your inquiries.

GULF STATES STEEL COMPANY

BIRMINGHAM, ALABAMA

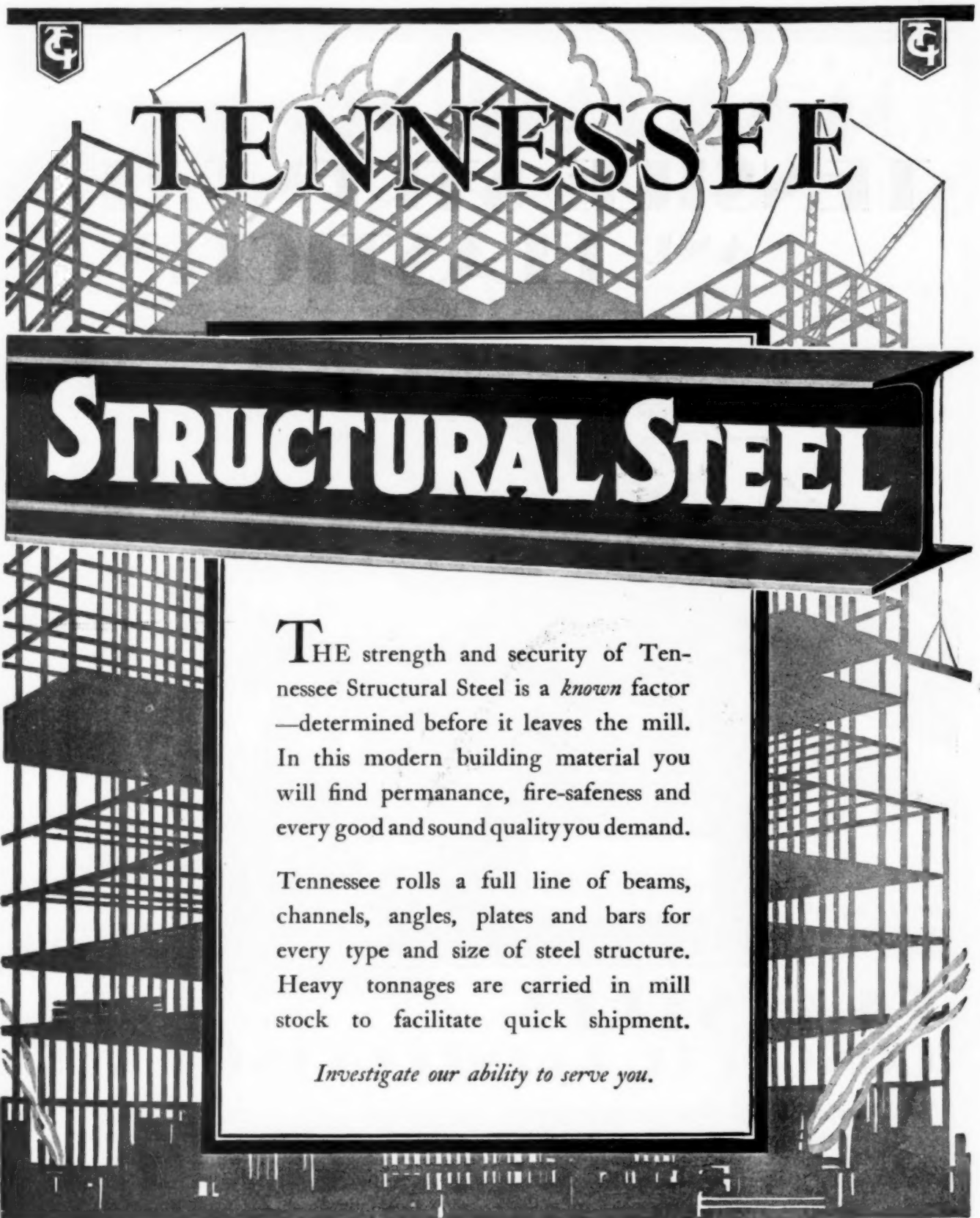
Pig Iron
Ingots
Billets
Slabs

Plates—Sheared and Universal
Sheets—Black, Blue
Annealed and Galvanized
Wire Rods Bars Angles

Bright Wire
Annealed Wire
Galvanized Wire

Barbed Wire
(Galvanized)
Manufacturers' Wire

Wire and Rods Straightened and Cut
Woven Wire Fence
Nails
Galvanized Nails
Cement Coated Nails
Staples
Bale Ties



TENNESSEE

STRUCTURAL STEEL

THE strength and security of Tennessee Structural Steel is a *known* factor—determined before it leaves the mill. In this modern building material you will find permanance, fire-safeness and every good and sound quality you demand.

Tennessee rolls a full line of beams, channels, angles, plates and bars for every type and size of steel structure. Heavy tonnages are carried in mill stock to facilitate quick shipment.

Investigate our ability to serve you.

Tennessee Coal, Iron & Railroad Company

General Offices: Brown-Marx Building, BIRMINGHAM, ALA.

SUBSIDIARY OF UNITED STATES STEEL CORPORATION

PRINCIPAL SUBSIDIARY MANUFACTURING COMPANIES:

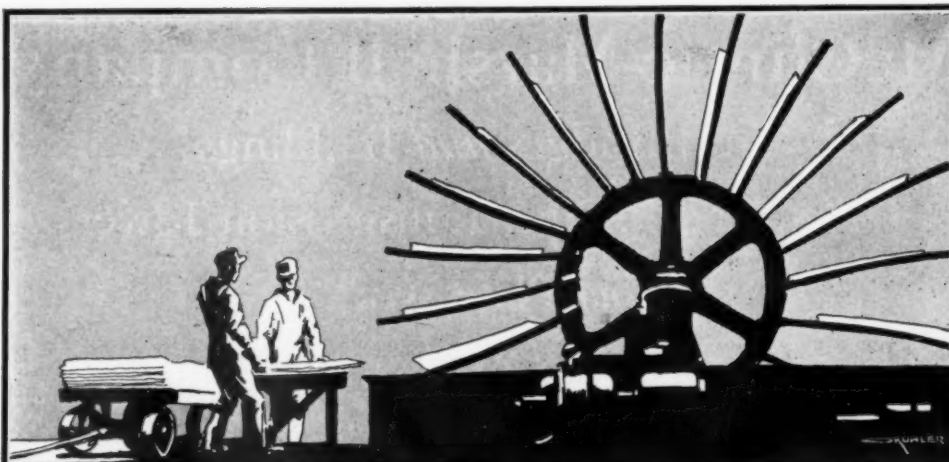
AMERICAN BRIDGE COMPANY
AMERICAN SHEET AND TIN PLATE COMPANY
AMERICAN STEEL AND WIRE COMPANY

CARNEGIE STEEL COMPANY
CYCLONE FENCE COMPANY
FEDERAL SHIPBUILDING AND DRY DOCK COMPANY

ILLINOIS STEEL COMPANY
MINNESOTA STEEL COMPANY
NATIONAL TUBE COMPANY

THE LORAIN STEEL COMPANY
TENNESSEE COAL, IRON & R. R. COMPANY
UNIVERSAL PORTLAND CEMENT COMPANY

Pacific Coast Distributors—United States Steel Products Company, San Francisco, Los Angeles, Portland, Seattle, Honolulu. Expert Distributors—United States Steel Products Company, New York City



WHERE SPANGLES ARE MORE THAN DECORATIONS

Buyers of galvanized steel sheets like to see bright, uniform spangles. For they indicate a good commercial, protective coating that adheres to the sheet and permits commercial forming requirements without peeling. In the Republic mills, clean, high quality steel sheets are galvanized under watchful experienced experts who control coating thickness, appearance and uniformity. This same personal care is also given to special specifications, where the sheets must meet unusually severe forming operations. Make sure the next galvanized steel sheets you buy are stamped Republic . . . the assurance of quality.

SAVE WITH STEEL



REPUBLIC

STEEL CORPORATION, YOUNGSTOWN, O.

STEEL SHEETS

McClintic-Marshall Company

Steel Bridges *and* Buildings
Tanks, Barges, Pipe, Transmission Towers
and Plate Work

General Offices:- PITTSBURGH, PA.

OFFICES IN PRINCIPAL CITIES

From One Source

You can secure your entire steel requirements from Bethlehem — with the assurance that each item is as good and dependable as the facilities of a completely equipped organization with years of experience can make it.

BETHLEHEM STEEL COMPANY

General Offices: Bethlehem, Pa.

District Offices: New York, Boston, Philadelphia, Baltimore, Washington, Atlanta, Pittsburgh, Buffalo, Cleveland, Cincinnati, Detroit, Chicago, St. Louis.

Pacific Coast Distributor: Pacific Coast Steel Corporation, San Francisco, Los Angeles, Portland, Seattle, Honolulu.


BETHLEHEM

ROANOKE IRON & BRIDGE WORKS, Inc.
Structural and Ornamental Iron
Wrought Steel Fences
Gray Iron Castings
FROM 1 TO 10,000 LBS.

Write for Estimates ROANOKE, VA.

Snead Architectural Iron Works
STRUCTURAL STEEL
ORNAMENTAL IRON
LOUISVILLE, KY.

RICHMOND
STRUCTURAL STEEL CO.
ORNAMENTAL IRON — GREY IRON CASTINGS
RICHMOND, VA. BRANCH
NORFOLK, VA.



WOODHOUSE CHAINS
Stand the Gaff
WOODHOUSE CHAIN WORKS
Trenton New Jersey

CAROLINA STEEL & IRON COMPANY

GREENSBORO, N. C.

Sales Office:—709 Nissen Bldg., WINSTON-SALEM, N. C.

Structural Steel FOR Buildings and Bridges

Capacity 1000 Tons per Month. 3000 Tons in Stock
The Largest Steel Fabricators in the Carolinas



BELMONT IRON WORKS
PHILADELPHIA NEW YORK EDDYSTONE

Southern Sales Office, Charlotte, N. C.

Engineers Contractors Exporters

Structural Steel

Complete Industrial Buildings

Bristol Steel & Iron Works, Inc.

STRUCTURAL STEEL FOR BRIDGES, BUILDINGS
AND ALL INDUSTRIAL PURPOSES
STEEL PLATE & MISCELLANEOUS IRON WORK
BRISTOL, VA.—TENN.

QUALITY PIG IRON

PLUS

Intelligent Cupola Service

SLOSS-SHEFFIELD STEEL & IRON CO.
BIRMINGHAM, ALA.

Estab.
1858

PATTERSON

BLOCKS

A substantial block for every purpose.

Write for Catalog No. 22

W. W. Patterson Co.
57 Water St., Pittsburgh, Pa.



EARLE

Cut Spur, Bevel, Herringbone
and Worm Gears

All sizes. Every description. Oper-
ating Machinery for Bridges, etc.
"Lea Simpler" Cold Metal Saws.

The Earle Gear & Machine Co.
4719 Stenton Avenue,
Philadelphia, Pa.
110 State St., Boston, Mass.
95 Liberty St., New York City

GEARS

STRUCTURAL STEEL REINFORCING

AISC

STEEL
*insures
strength
and
security*

ORNAMENTAL
IRON WORK

STEEL WINDOWS

STEEL DOORS

STEEL TRIM

SHEET METAL
PRODUCTS

PIDGEON-THOMAS IRON CO.
MEMPHIS, TENN.

THE PHOENIX IRON CO.

MANUFACTURERS OF OPEN HEARTH
**Structural Steel Shapes, Beams,
Channels, Angles, and Ship Shapes**

Works: Phoenixville, Pa. Main Offices: Philadelphia, Pa.

OFFICES:

22 S. 15th St., Philadelphia 30 Church St., New York
Munsey Building, Washington 110 State St., Boston
City Savings Bk. Bldg., Albany, N. Y. 26 Victoria St., London

THE PHOENIX BRIDGE CO.

Engineers, Fabricators, and Erectors
Bridges and Other Structures of Steel

CAPACITY 60,000 TONS

Works and Engineering Office: Phoenixville, Pa.

NASHVILLE BRIDGE COMPANY

NASHVILLE, TENN.

Engineers—Fabricators and Erectors
of Bridges, Buildings, Transmission
Towers and other Types of Structural
Steel.

ATLANTIC BRIDGE COMPANY

ENGINEERS • CONTRACTORS • ERECTORS

BRIDGES • FOUNDATIONS • BUILDINGS

GREENSBORO, NORTH CAROLINA

CHAMPION BRIDGE COMPANY

WILMINGTON, OHIO
Manufacturers of
Bridges and Structural Work

Southern Offices:
ATLANTA, GA. FORT LAUDERDALE, FLA.

CONVERSE BRIDGE & STEEL CO.

STRUCTURAL STEEL

For
Industrial Buildings, Mines, Refineries,
and the Building Trade

CHATTANOOGA TENNESSEE

San Francisco Bay

Bridged

SAN Francisco Bay,
7 miles wide, is crossed
today with a modern bridge
serving traffic between San Fran-
cisco and Oakland, Calif. This is another of the
notable bridge projects on which we furnished
and erected the main steel work including a 300-
foot Vertical Lift Span.

Messrs. Waddell and Hardesty of New York
were the Engineers, and Raymond Concrete Pile
Co., the General Contractors.

VIRGINIA BRIDGE & IRON CO.
Roanoke Birmingham Memphis Atlanta New Orleans
New York Los Angeles Charlotte Dallas El Paso

VIRGINIA BRIDGE
STEEL STRUCTURES

Structural Steel

for STEEL

INGALLS
BIRMINGHAM, ALA. U.S.A.

Buyers of structural steel save money
by specifying Ingalls. Location, huge
production, and careful workmanship,
give us the advantage.

ASK FOR QUOTATION
on bridges, Ingalls Truss (for fireproof
floors and roofs), standard buildings, etc.

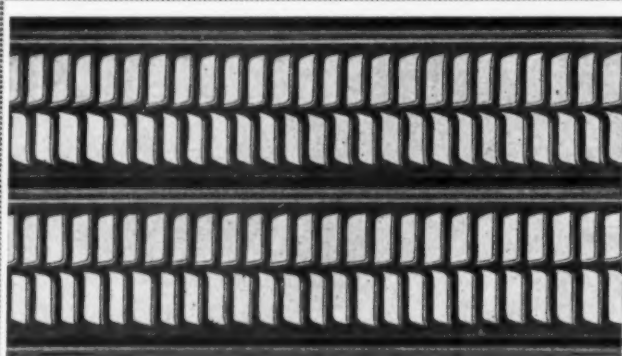
THE INGALLS IRON WORKS CO.
Plants and Executive Offices BIRMING-
HAM, ALA., VERONA, PA. [in the Pitts-
burgh District]
Branch Offices: New York, Atlanta,
Tampa, New Orleans.

Quality Machinery Deserves the
RAYMOND

RAYMOND MFG. CO.
Corry, Pa.

The basic function of a spring is dependable, unfailing
service. 40 years of service have proved Raymond
Springs to be dependable.
All Metals—Any Quantity.

Machinery Springs of Quality



**Stay-Rib Is More Rigid
than Other Laths of Equal Weight**

Stiffer . . . because of the longitudinal channels and the reinforcing members at the centers of the strands. Heat-treated and annealed for easier handling and removal of all foreign material. Scratching in and doubling up can be done from one scaffold . . . a substantial saving in labor.

MILCOR STEEL COMPANY

(formerly Milwaukee Corrugating Co., Milwaukee, Wis.
and The Eller Mfg. Co., Canton, Ohio)

Main Offices 1451 Burnham St., Milwaukee

Plants at Milwaukee, Wis., Canton, Ohio, La Crosse, Wis.,
Chicago, Ill. and Kansas City, Mo.

Sales Offices: New York, 418 Pershing Sq. Building; Boston,
Mass., 726 Little Building; Atlanta, Ga., 207 Bona Allen Building;
Minneapolis, Minn., 642 Bldrs. Exchange Building;
Little Rock, Ark., 104 W. Markham Street

MILCOR PRODUCTS

REINFORCING BARS

Deformed. All sizes. Rounds and Squares $\frac{1}{4}$ " to
 $1\frac{1}{4}$ " New Billet Stock. Straight or Bent.
Warehouse or Mill Shipments.

KNOXVILLE IRON CO., Knoxville, Tenn.

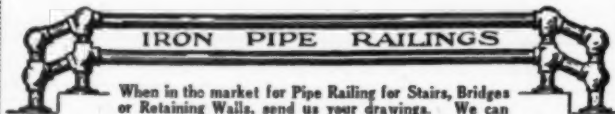
STEEL

DESIGNERS, FABRICATORS, ERECTORS
of Structural Steel and Concrete Reinforcing Bars
Immediate Shipments from Charlotte Stock
Office and Plant: Little Pittsburgh
CHARLOTTE, N. C.

**SOUTHERN
ENGINEERING
COMPANY**

DIETRICH BROTHERS

Structural and Ornamental Iron and Steel Works
Large Stock of Standard and Bethlehem Shapes
CONCRETE REINFORCEMENTS
BALTIMORE, MD.



PIPE RAILING CONSTRUCTION CO., Long Island City, New York

ANGLE STEEL EQUIPMENT
For Factory, Shop and Office

Angle and Sheet Steel Textile Mill and
General Manufacturing

Stools, Chairs, Desks, Bench Legs,
Tables, Benches, Cabinets, Trucks,
Machine Tenders, Bins, Pans, etc.

Send for Catalog "C-M.R."

Agents and Dealers in all Principal Cities

Angle Steel Stool Co.

Plainwell, Mich.



Send for Catalog

WINDOW
PLATE
ART

Richmond,
Va.

GLASS

ESTABLISHED 1872

BINSWANGER & Co.
(INCORPORATED)

MIRRORS
BEVELING
SKYLIGHT

Memphis,
Tenn.

STORE FRONT CONSTRUCTION

DUFUR, BAGGOTT & CO.

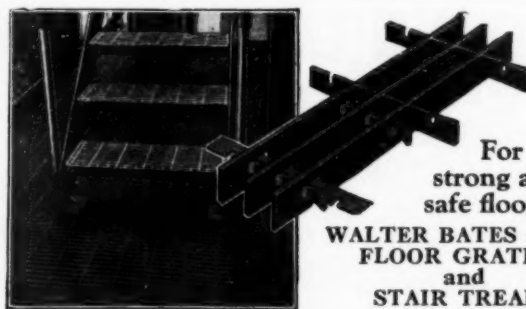
BRASS AND STEEL WIRE WORK OF EVERY DESCRIPTION

Absolute Prompt Delivery

Bank Work Elevator Enclosures Elevator Cabs
Counter Railings Grills Wickets Guards
Partitions Skylight Protectors, Etc.

403 N. PACA STREET

BALTIMORE, MD.



For
strong and
safe flooring—
**WALTER BATES STEEL
FLOOR GRATING
and
STAIR TREADS**

**WALTER BATES STEEL
CORPORATION**
GARY INDIANA.

**Kerlow
Steel Floors**

222-238 CEDAR AVE.
JERSEY CITY, N. J.



Non-Slipping

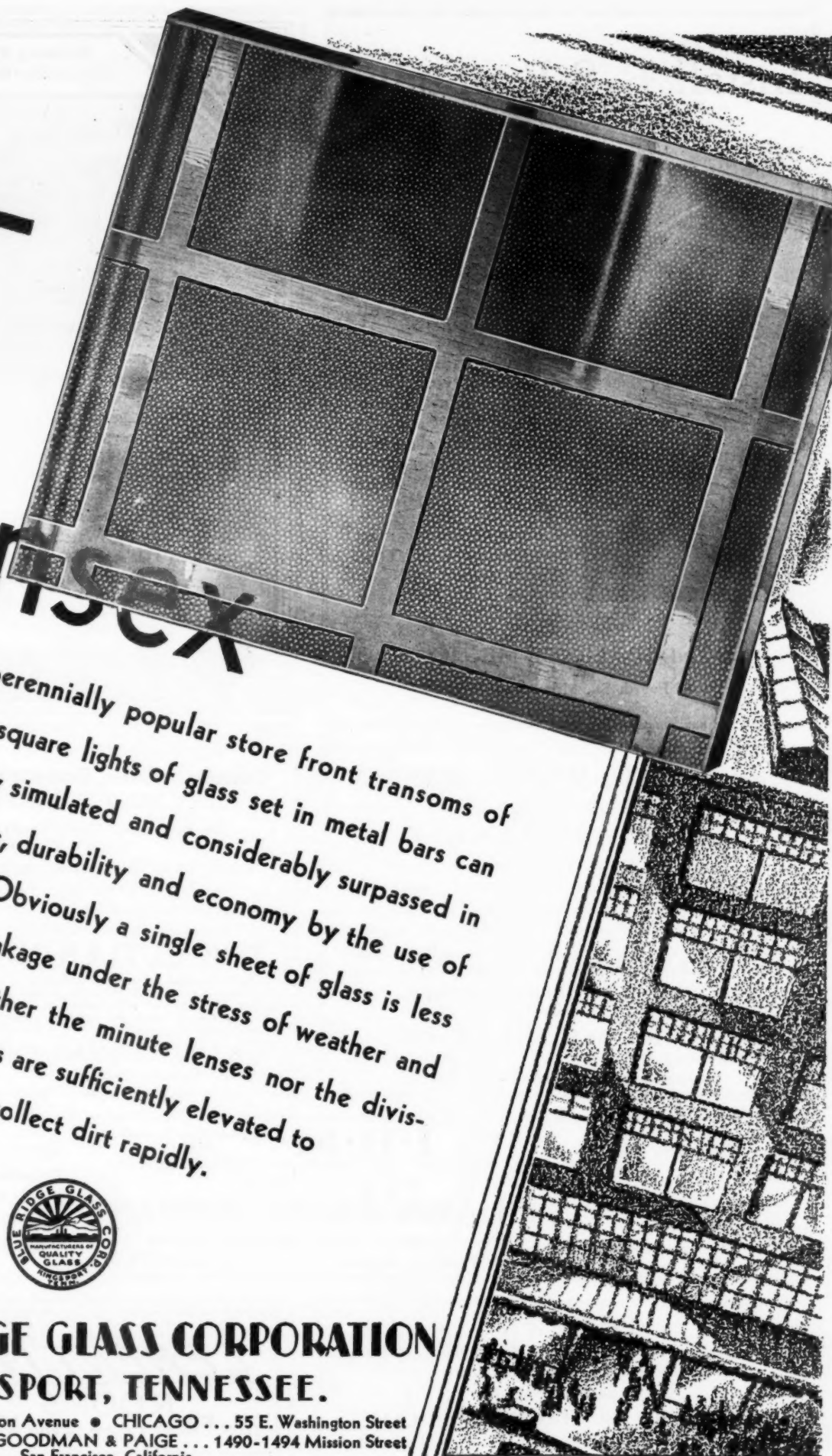
Transex

THE perennially popular store front transoms of small square lights of glass set in metal bars can be closely simulated and considerably surpassed in appearance, durability and economy by the use of TRANSEX. Obviously a single sheet of glass is less subject to leakage under the stress of weather and vibration. Neither the minute lenses nor the division lines are sufficiently elevated to collect dirt rapidly.

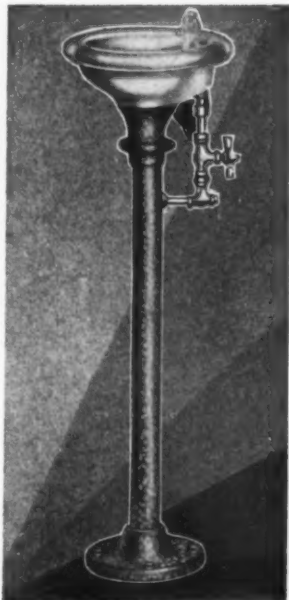


BLUE RIDGE GLASS CORPORATION KINGSPORT, TENNESSEE.

NEW YORK . . . 1 Madison Avenue • CHICAGO . . . 55 E. Washington Street
Pacific Slope Agents . . . GOODMAN & PAIGE . . . 1490-1494 Mission Street
San Francisco, California



Install R-S Fountains



Rundle-Spence Drinking Fountains in your plant or offices will invigorate your employees. These bubblers will provide good, clean, fresh drinking water at all times.

Every one must drink sanitarily from R-S Vertico-Slant Fountains—lips cannot touch the nozzle—this feature safeguards the health of your workers.

Let us send you an illustrated catalog. Write today.

RUNDLE-SPENCE MFG. CO.

63-Fourth St., Milwaukee, Wis.

THE GEORGIA MARBLE COMPANY

Producers and Manufacturers of

GEORGIA MARBLE

Tate, Georgia

Atlanta Chicago Cleveland Dallas New York

OUR CLOCKS

Keep tab on your Employees
Watch your Watchman

CLOCKS for the OFFICE, FACTORY,
SCHOOL and HOME

L. E. KAISER KLOCK CO.

221 N. Liberty St.

Baltimore, Md.

Let us send you a relief clock and repair yours

Cement-Gun Construction Work THE RUST ENGINEERING CO.

Engineers and Contractors on all kinds of
Cement-Gun Work

WOODWARD BUILDING, BIRMINGHAM, ALA.
New York Pittsburgh Washington Chicago

THE CUTLER MAIL CHUTE

In its perfected form—the outcome of long experience, designed to meet the requirements of public use under Postoffice Regulation. Simple and substantial in design and construction, durable in finish, with an artistic quality appreciated and much commended by Architects. * * * Details, information on request.

THE CUTLER MAIL CHUTE COMPANY

General Offices and Factory

ROCHESTER, N. Y.

Oil--Water--Gas Lines
Hydro-Electric Penstocks
Interior Hull Protection
Tank Protection
Concrete Waterproofing

FOSTER I.B.M. Impregnated Bituminous
Materials
PROTECTIVE COATINGS--PAINTS--CEMENTS

Write for Foster Catalogue

BENJAMIN FOSTER COMPANY

Manufacturers--Contractors--Distributors

20th and Venango Streets

PHILADELPHIA

Structural Steel Paints
Industrial Paints
Plastic Cements
Floor Cements for
Wood Block--Linoleum and Tile

GENERAL

Industrial Machine Work—Heavy and Medium
Builders of Special Machinery
Brick Yard Supplies

FERNHOLTZ MACHINERY CO.

Boyle Ave. and Missouri Pacific Railroad, St. Louis, Mo.

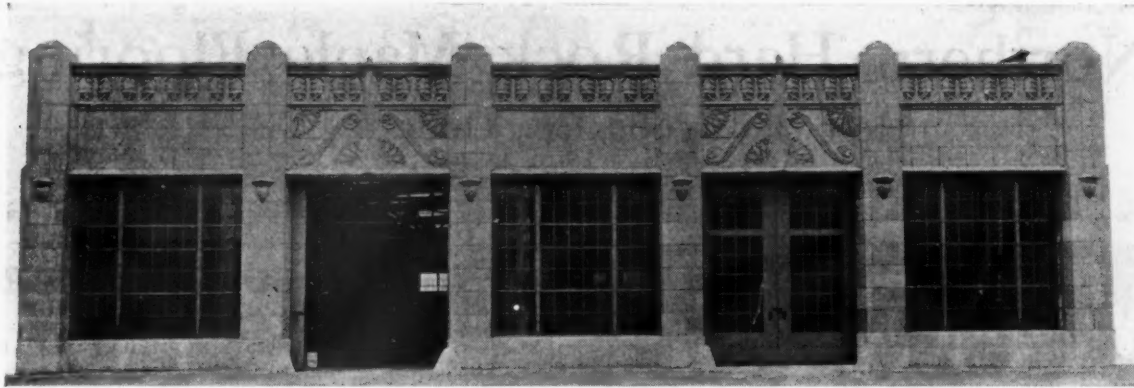


CEMENT TILE

ROOFS

The FIRST COST is the LAST

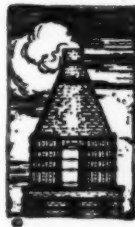
AMERICAN
CEMENT TILE
MANUFACTURING CO.
OLIVER BUILDING
PITTSBURGH, PA.



SELLERS GARAGE, BIRMINGHAM, ALABAMA

*Warren, Knight and Davis, Architects.**E. R. Maynard Construction Co., Builders.*

THERE is no type of building on which TERRA COTTA cannot be used to advantage. It is usually associated with bank and office buildings, court houses and other public and commercial buildings of all kinds. But Warren, Knight & Davis, of Birmingham, certainly found a splendid use for it on the one story garage pictured above.



Atlanta Terra Cotta Company

Glenn Building

Atlanta, Georgia

Factory at East Point, Georgia

Southern Factory of
Atlantic Terra Cotta Company
19 West 44th Street
New York

Southwestern Office
A. P. Clark, District Manager
Praetorian Building
Dallas, Texas

Northern Hard Rock Maple Flooring

Holt Hardwood Co., Oconto, Wis.

MEMBERS OF MAPLE FLOORING MANUFACTURERS ASSOCIATION

SINCE 1879

MOORE

DRY KILNS

SCIENTIFIC LUMBER DRYING
MOORE DRY KILN COMPANY
NORTH PORTLAND, ORE. JACKSONVILLE, FLA.

CREOSOTED TIMBERS
for all purposes

POLES POSTS PILING BEAMS
CROSS TIES BRIDGE MEMBERS MINE SHORING

Send for Catalogue
Taylor-Colquitt Company
Spartanburg - - - South Carolina

CALCASIEU

Long Leaf
Yellow Pine

"Supreme Structural
Wood of the World"

MANUFACTURED BY

**INDUSTRIAL
LUMBER COMPANY, INC.**

ELIZABETH LA.

Gulf States Creosoting Co.

PLANTS AT

HATTIESBURG, MISS., MERIDIAN, MISS., JACKSON, MISS.,
SLIDELL, LA., BRUNSWICK, GA., BIRMINGHAM, ALA.

Main Office: HATTIESBURG, MISS.

CREOSOTED MATERIAL

INCLUDING

Lumber, Timbers, Piles, Telephone and
Telegraph Poles and Cross-Arms,
Cross-Ties, Etc.

We also treat with Zinc Meta-Arsenite (colorless)



It's Easy to Rent Soundproofed Apartments

Gainesborough Hall at 41st and Baltimore Ave., Philadelphia, is soundproofed with Cabot's Double Ply Quilt in all partitions and halls. Samuel C. Silverman, Inc., Builders, know how much easier it is to rent quiet apartments. The Quilt should quickly save its cost in higher rents and occupancy.

When you build apartments, soundproof with

Cabot's Quilt

MAIL US THE COUPON BELOW FOR FULL INFORMATION

141 Milk Street, Boston, Mass.

Gentlemen: Please send me full information on CABOT'S QUILT.

Name _____

Address _____ MR-6-30

Creosoted Ties, Piling, Poles and Timbers Creosote Oil

Docks for Ocean Vessels

American Creosote Works, Inc.
New Orleans, La.

Savannah Creosoting Co., Inc.
Savannah, Ga.

Atlantic Creosoting Co., Inc.
Norfolk, Va.

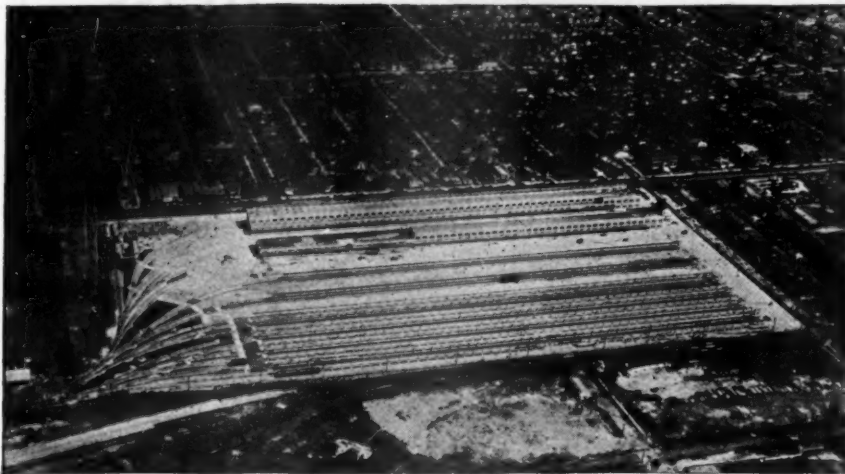
Delaware Wood Preserving Co.

Sales Office: Finance Building, Philadelphia

Plant: Newport, near Wilmington, Delaware

SERVICE

ALL forest products treated with
all standard preservatives by
all standard processes.

ROBERTSON STRIKES AT COSTS

Aerial view of the \$5,000,000 Detroit Union Produce Terminal. More than 59,000 square feet of Robertson Protected Metal Roofing and 14,735 square feet of Robertson Skylights were used in this terminal.

THE LIMELIGHT
IS ON THE
PRODUCE TERMINALS

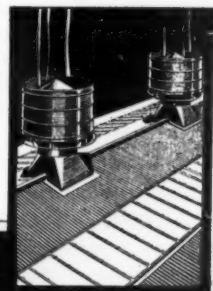
Railroad produce terminals have been coming into their own in a spectacular fashion in the past few years. One railroad after another, one group of roads after another, in one city after another, have been swinging into step. Models of efficiency have been created. Acres of floor area have been laid out. Miles of track have been built; great buildings erected; vast stretches of platform put under roof.

In Detroit, a \$5,000,000 plant . . . in Chicago . . . in Pittsburgh . . . all over the country new ones have been built, or new ones are planned.

In this field . . . as in most of the other construction fields where great things are afoot . . . you find Robertson in the thick of the developments, providing help with the ventilating problems, providing daylighting of unexampled efficiency, providing constructive cooperation in the prevention of corrosion and in the elimination of maintenance, providing especially a specialized engineering service in roof design and roof problems.

Serving as it does in so many active modern fields, the Robertson Company has piled up a valuable experience in industrial building construction. If you have any problems about buildings, write to the Robertson engineers for their suggestions.

H. H. ROBERTSON COMPANY · PITTSBURGH






Mathews Fire Hydrant

Because the entire barrel, with all parts, is removable, broken "MATHEWS" hydrants are easily replaced without digging.

CAST IRON PIPE and FITTINGS
SAND SPUN (Centrifugally Cast)
and PIT CAST
GATE VALVES VALVE BOXES

R. D. WOOD & CO.
PHILADELPHIA, PENNA.

"The Whole Works" Out in a Jiffy In business continuously since 1803



Brass and Copper

Immediate delivery from
18 convenient warehouses

CHASE BRASS & COPPER CO.—Incorporated—
Waterbury, Conn.

Manufacturers Of

ELECTRIC AND HAND POWER **ELEVATORS** FREIGHT AND PASSENGER
DUMB WAITERS

MILLNER COMPANY
St. Louis, Mo.

SALT GLAZED SEWER AND CULVERT PIPE


Wall Coping, Drain Tile, Flue Lining, Chimney Tops, Hollow Tile, Fire Proofing, Vitrified Brick, Fire Brick

BANNON'S PATENT LIDDED PIPE FOR STEAM CONDUITS
BANNON PIPE CO. LOUISVILLE, KY.

AMERICAN ELEVATORS
PASSENGER AND FREIGHT
AMERICAN ELEVATOR and MACHINE CO., INC.
Established in 1898
LOUISVILLE, KENTUCKY

FIRE CLAY, SEWER PIPE, FLUE LINERS and WALL COPING

Write for Catalogue and Discounts
Owensboro Sewer Pipe Co. Owensboro, Ky.




Designers, Manufacturers and Contractors
of
BLOW PIPE INSTALLATIONS
also High Pressure Long Distance Blower Systems

NATIONAL BLOW PIPE & MFG. CO., LTD.
NEW ORLEANS, LA.

THE CAMBRIA CLAY PRODUCTS CO.
MANUFACTURERS
SEWER PIPE - FLUE LINING - WALL COPING
FACE BRICK - FIRE BRICK - FIRE CLAY
HOLLOW BUILDING TILE

Office and Works - **BLACKFORK, OHIO**



SCHOOL DESKS

THE H. H. Andrews Co.
CHICAGO
107 So. Wabash Avenue

UNIVERSAL CAST IRON PIPE

THE CENTRAL FOUNDRY COMPANY
Graybar Bldg., 43rd St. and Lexington Ave., New York, N. Y.
Chicago Birmingham Dallas San Francisco

no packing no calking no bell holes

WE are the sole and only manufacturers of the machine known under the trade name and trade mark
"CEMENT GUN"

Let us aid you by giving you full information how your new construction or repair is made with this machine and its product
GUNITE

Experience Has Taught Us All Best Methods
CEMENT GUN CO., INC., Allentown, Penna.

GLAMORGAN
PIPE & FOUNDRY CO.

GENERAL FOUNDERS AND MACHINISTS
LYNCHBURG, VA.

One-Fifth The Weight of Cast Iron Pipe



One-Third The Weight of Wrought Pipe

ROOT SPIRAL RIVETED PIPE

AN ABSOLUTELY TIGHT DURABLE PIPE

The lap riveted seam repeats its cycle every twelve inches, forming a broad-stiffening rib of great value, and makes Root pipe one-third stronger than any other type of pipe construction. Light weight and simple connections reduce transportation handling and erection costs. Suitable for conveying water, air, gas, exhaust steam and powdered coal.

ABENDROTH & ROOT MANUFACTURING COMPANY
Pipe Specialists Continuously Since 1867. Sales Office: Woolworth Bldg., N. Y.

CAST IRON PIPE - AND FITTINGS -

American Cast Iron Pipe Company
Birmingham, Ala.
SALES OFFICES IN PRINCIPAL CITIES



At ALBANY—the world's largest cast iron water main installation is nearing completion



Fairchild Aerial Surveys, Inc.

THE CITY OF ALBANY, NEW YORK, is building a remarkable new water supply system. The main supply line consists of a conduit 48 inches in diameter and 20 miles long—built entirely of cast iron pipe. Large diameter cast iron pipe was specified for this giant project because of its known record of durability. Cast iron pipe lasts for centuries and there is a definite reason for its long life. Water and gas mains of ferrous metal (iron and steel) with the exception of cast iron disintegrate from rust. Cast iron pipe is the only ferrous metal pipe practicable for underground mains which rust will not destroy.

The efficiency and economy of large diameter cast iron mains has always been recognized by engineers and city officials—never more so than today. Last year more large diameter cast iron pipe was produced than in any previous year and the production curve is constantly rising.

If you, Mr. Engineer, or you, Mr. City Official, are in any doubt regarding the kind of pipe to put down for any water, gas or sewer job, we shall appreciate an opportunity to place all the facts and figures before you. Address The Cast Iron Pipe Research Association, Thomas F. Wolfe, Research Engineer, 309 People's Gas Building, Chicago. Cast iron pipe bearing the "Q-check" trade mark is obtainable from the following leading pipe founders: Alabama Pipe Company, Anniston, Ala.; American Cast Iron Pipe Company, Birmingham, Ala.; James B. Clow & Sons, 219 N. Talman Avenue, Chicago, Ill.; Donaldson Iron Company, Emaus, Pa.; Glamorgan Pipe and Foundry Company, Lynchburg, Va.; Lynchburg Foundry Company, Lynchburg, Va.; National Cast Iron Pipe Company, Birmingham, Ala.; United States Pipe and Foundry Company, Burlington, N. J.; Warren Foundry and Pipe Company, 11 Broadway, New York.



A typical section of Albany's great cast iron supply line.



The "Q-check" symbol shown above has been adopted as the trade mark of The Cast Iron Pipe Research Association.

CAST IRON PIPE



**NATIONAL
COPPER-STEEL
PIPE**

The Original
**COPPER-STEEL
PIPE**



NATIONAL Tube Company was the first manufacturer of Copper-Steel Pipe. In addition to being the pioneer in making Copper-Steel Pipe, this Company has contributed a large share of the research and experiments necessary to definitely establish the fact that a small amount of pure copper added to steel makes it more resistant to atmospheric corrosion. Nearly twenty years of observation, laboratory and field tests and actual service records are behind the development of NATIONAL Copper-Steel Pipe.

Time-tested and quality proven—backed by the experience and resources of the largest manufacturer of wrought tubular products in the world—NATIONAL Copper-Steel Pipe is the logical choice for all services where the pipe is exposed to atmospheric corrosion due to alternate wet and dry conditions, particularly for soil, waste, vent lines and rain leaders, hand railings, etc., in commercial buildings, industrial plants, factories and shops.

To secure the benefit of the experience of pioneers in making this product, be sure to specify—

NATIONAL COPPER-STEEL PIPE—*The Original Copper-Steel Pipe*



NATIONAL TUBE COMPANY

Frick Building, Pittsburgh, Pa.

SUBSIDIARY OF UNITED STATES STEEL CORPORATION



PRINCIPAL SUBSIDIARY MANUFACTURING COMPANIES OF UNITED STATES STEEL CORPORATION:

AMERICAN BRIDGE COMPANY
AMERICAN SHEET AND TIN PLATE COMPANY
AMERICAN STEEL AND WIRE COMPANY

CARNEGIE STEEL COMPANY
CYCLONE FENCE COMPANY
FEDERAL SHIPBUILDING AND DRY DOCK COMPANY

ILLINOIS STEEL COMPANY
MINNESOTA STEEL COMPANY
NATIONAL TUBE COMPANY

THE LORAIN STEEL COMPANY
TENNESSEE COAL, IRON & R. R. COMPANY
UNIVERSAL ATLAS CEMENT COMPANY

Pacific Coast Distributors—United States Steel Products Co., Columbia Department: San Francisco, Los Angeles, Portland, Seattle, Honolulu. Export Distributors—United States Steel Products Co., New York City



Patent Applied for

COOK DEEP-WELL TURBINE

SELF-OILING-WEATHERPROOF

This is the Pump YOU
have been hoping for - - -

Foolproof — Trouble-proof

Compact

Sturdy

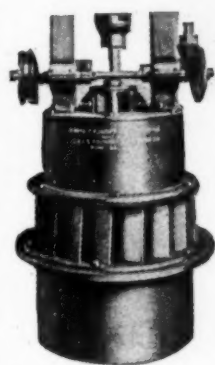
Efficient

Adaptable

BULLETIN — 36

A. D. COOK, Inc.

Lawrenceburg—Indiana



DAVIS TURBINE WATER WHEELS

Most Powerful, Dur-
able, Dependable, and
Economical in use of
water.

Write for catalog.

DAVIS FOUNDRY &
MACHINE WORKS

ROME, GEORGIA.



TRADE MARK
DOWNIE

**DEEP
WELL
PUMPS**

Single and Double Stroke
Any Drive—

KEYSTONE PUMP & DRILL CO.
Beaver Falls Pennsylvania



SAND PUMPS

A wide range of types in sizes 4" to 15"

For belt drive and for direct connection to motor

Illustrated booklet on request

GEORGIA IRON WORKS
AUGUSTA, GA.

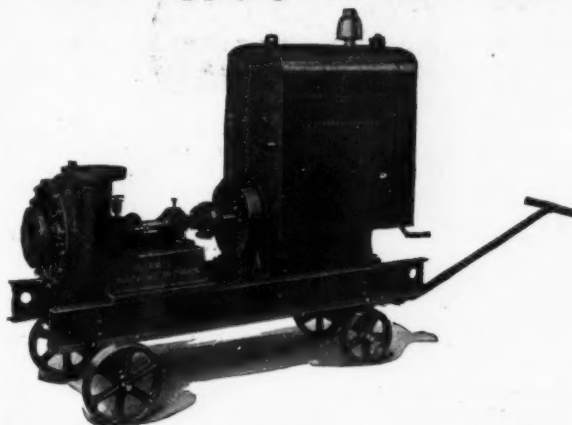
ALLIS-CHALMERS MFG. CO.

MILWAUKEE, WIS., U. S. A.

DESIGNERS AND BUILDERS OF

Steam Turbines, Electrical Machinery, Steam, Gas
and Oil Engines, Centrifugal Pumps, Crushing
& Cement Machinery, Etc.

To make your unwatering and
water supply problems easier!



THIS Morris Portable All-Purpose Pump handles any-
thing from clear water to floating dirt, sand and gravel,
delivers 300 to 600 gals. per min., can be used for heads up
to 50 ft., and is easy to cart from one job to another. For
general water supply, unwatering excavations, sumps, etc.,
it can't be beat.

Write for literature about this and other sizes
of Morris Pumps

MORRIS MACHINE WORKS, Baldwinsville, N. Y.

MORRIS

CENTRIFUGAL PUMPS

MYERS CYLINDERS



Turn your back to cylin-
der troubles—avoid com-
plaints and limited service
years—sell and install
Myers Cylinders—the com-
plete line adapted for any
style or type of hand or
power pump. Brass, Brass
Lined or Polished Styles
in all standard sizes. Qual-
ity built throughout. Rea-
sonably priced. Satisfac-
tory and profitable. Your
inquiry will receive prompt
attention.

THE F. E. MYERS & BRO. CO., Ashland, O.

PLATT IRON WORKS - DAYTON, OHIO.

Smith-Vaile **PLATT** Pumps



Steam and Power
Pumping Machinery

IF YOU WANT TO GET ~
Southern Business
Advertise in the
MANUFACTURERS RECORD

RoTURBo CENTRIFUGAL PUMPS

Manistee Iron Works Co., Manistee, Michigan

"J
A
S
C
O"



T
A
N
K
S

TANKS FOR GASOLINE—OIL—AIR—ETC.
COMPRESSED GAS CYLINDERS

JOSEPH A. JANNEY, JR.

SUCCESSOR TO
JANNEY-STEINMETZ & CO.
PHILADELPHIA, PA. NEW YORK, N. Y.
1205 Morris Building 313 Hudson Terminal



**SOUTHLAND
PRODUCTS**
STAND PIPES
SMOKE STACKS
TOWERS and TANKS
STEEL RIVETED
PIPE

Chattanooga Boiler & Tank Co.
CHATTANOOGA, TENN.

82 Beaver St., New York City
107-109 Kinney Bldg., Charlotte, N. C.

TANKS



**Riveted-up
Steel
Tanks**

Elevated Tanks
Storage Tanks
Gas Holders
Steel Pipe
Wiggins Roofs
Riveted-up
Tanks
Steel Plate Work

We now build small capacity
cylindrical tanks in southern ter-
ritory, in addition to large tanks
and steel plate work.

CHICAGO BRIDGE & IRON WORKS
Birmingham 1530 Fifth St., North
Atlanta 1314 Rhodes-Haverty Bldg.
Dallas 3308 Magnolia Bldg.
Cleveland 2316 Union Trust Bldg.
Chicago 2106 Old Colony Bldg.
New York 3113 Hudson Terminal
Detroit 1510 Lafayette Bldg.
Philadelphia 1019 Jefferson Bldg.
Boston 1516 Consolidated Gas Bldg.
San Francisco 1040 Rialto Bldg.

AIR-TIGHT STEEL TANK CO.
PITTSBURGH, PA.



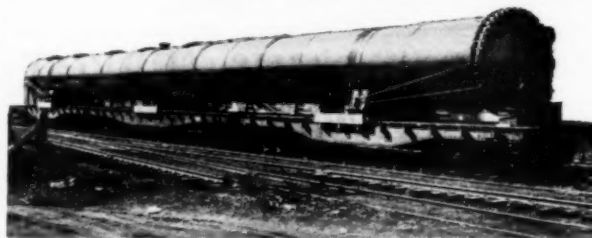
TANKS FOR: High pressure gas and air storage—Pneu-
matic water systems—Gasoline and oil storage—Oil burning
equipment—Open top—Welded. ATSCO Genuine Copper
Braced Tanks for high pressure — the tightest, safest,
strongest tank it is possible to construct by any known
process. ASME code tanks.

♦ **C O L E** ♦

TANKS & VATS
for ACID STORAGE
NH₃ STORAGE,
Aluminum
Alloy Steels
Lead Lined
Monel Metal
Tin Lined

BOILERS—HRT
and MANNING
JACKETED KETTLES
AGITATOR TANKS
BUBBLE TOWERS
GAS SCRUBBERS
WELDED STEEL PIPE
CREOSOTING CYLINDERS

Metal Plate Work



Cole Creosoting Cylinder 8" diameter x 138' long.

♦ ♦ ♦

R. D. COLE MANUFACTURING CO.

Established 1854

NEWNAN, GA.

New York Office,
5 Beckman St.

TANKS

BOILERS ENGINES
BARGES DRYERS
and MACHINERY

BUILT TO ORDER

Write for Further Information

J. S. SCHOFIELD'S SONS CO.
MACON, GA.

MECKLENBURG IRON WORKS
Founded 1858

Consulting Engineers

Sheet and Plate Steel Construction Tanks — Water, Oil, Gasoline, Dye
Smoke Stacks and Connections Boilers and Boiler Flues

CHARLOTTE, N. C.

STEEL TANKS
ANY SIZE FOR ANY PURPOSE

PITTSBURGH-DES MOINES STEEL COMPANY

11 NEVILLE ISLAND - PITTSBURGH, PA.

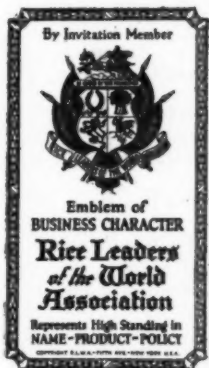
DES MOINES NEW YORK CHICAGO ATLANTA DALLAS SEATTLE SAN FRANCISCO



Photo by Victor Dalin, Lansdowne, Pa.

The Copyrighted Slogan tells the Story

"The Sun Never Sets on Hammond Tanks"



TRAVELING through the air the land marks are changing. Every industrial center has its group of tanks. Where rails and steamships meet you will find Hammond Tanks. We present an aeroplane view of shipping point on Delaware River where Ocean Steamers unload their cargo.

Send for our Bulletin No. 200

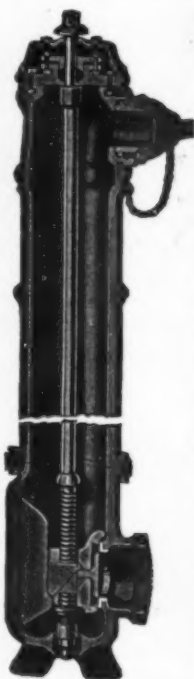
HAMMOND IRON WORKS, Warren, Pa., U.S.A.

New York Office: 17 BATTERY PLACE

Telephone: Whitehall 0060

HAMMOND TANKS

LUDLOW Fire Hydrants



Ludlow Slide Gate Fire Hydrants are cheapest in the long run. The records they have made in our large cities where many others are in use prove that there is no other hydrant on the market with a greater efficiency and a smaller upkeep cost.

Ludlow Hydrants cannot clog. All working parts are protected from injury by gritty or cutting substances passing through the hydrant. All parts can be removed without digging up the hydrant. Gate-locking device prevents street from being flooded should the standpipe be broken.

Southern Representatives and Distributors: Wm. F. Wilcox, 4th National Bank Bldg., Atlanta, Ga.; Robert M. Spurlock, Shreveport, La.; W. K. Henderson Iron Works & Supply Co., Shreveport, La.; Mid-Continent Supply Co., Fort Worth and Houston, Texas.

The Ludlow Valve Mfg. Co.
TROY, N. Y.

Branch Offices

422 Oliver Bldg., Pittsburgh, Pa.

Boston

New York

Chicago

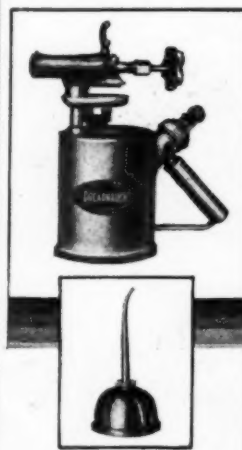
Philadelphia

Kansas City

WALL Products for Industry...

INDUSTRY knows Wall "Superior" Products—and has used them for years in promoting "service with safety." New products have been added, old products still further refined and improved, until today the WALL line is not only complete but modern, with distinctive features that mean utmost in utility and economy! Sold only through jobbers.

P. WALL MFG. SUPPLY CO., 3126 Preble Ave., N. S., Pittsburgh, Pa.



DREADNAUGHT

"Service With Safety"

BLOW TORCHES & FURNACES

Carriers • Tallow Pots • Oilers

"SINCE 1864"



DAVIS CYPRESS TANKS

FACTORY TANKS AND STEEL TOWERS

If you handle liquids, for storage or processing, Davis Cypress Tanks very likely will provide new economies. For water, common chemicals, or for mixing and storing solids and compounds. Industrial plants and railroads have used our tanks for 42 years. Ask for estimates and catalog—both sent promptly on inquiry.



G. M. DAVIS & SON

P. O. Box 5, Palatka, Florida



FOR PICKLING STEEL



**WOOLFORD
WOOD
TANKS**

With special designed acid sealed joints are proving what we claim—the best that are made. 4", 6", 8" material, any length, width and depth. Shipped set up or K. D.

For over seventy years exclusive wood tank builders.

G. WOOLFORD WOOD TANK MFG. CO.

Factory—Darby, Pa.

Mail—Paschall P. O., Phila., Pa.

Your ADVERTISEMENT

in these pages places your facilities before the leaders in manufacturing and industrial operations in the South and Southwest, creating wider markets for your products.

♦ ♦

Advertising rates gladly
submitted upon request

♦ ♦

MANUFACTURERS RECORD

Baltimore

Maryland

Latest Improved McLanahan Single Roll Crushers.

Simplicity — Power — Economy

Built in any capacities up to 1500 tons per hour, for any material.

Low power consumption—no feeders necessary on wet or dry materials—easily repaired. Crushes 100% of the time to desired size. Minimum of fines and dust. Steel or iron construction as desired.

Write for catalogs and information on Pit, Mine, Quarry and Industrial Equipment, washers, ore jigs, screens, dryers, hoists, etc.

McLanahan and Stone Machinery Co.

Hollidaysburg, Pennsylvania.

The Davison Chemical Company

Manufacturers and Distributors of

All Grades of

SULPHURIC ACID SUPERPHOSPHATE DOUBLE SUPERPHOSPHATE

Main Plant, Baltimore: Pyrites Deposits Cienfuegos District, Cuba; Phosphate Rock Plant, Southern Phosphate Corporation, Bartow, Florida.

Fertilizer Plants: Maryland 11; Virginia 9; Pennsylvania 10; Georgia 2; Ohio 2; North Carolina 11; South Carolina, Mississippi, Louisiana, Texas, Indiana, West Virginia, Tennessee, Connecticut and New Jersey 1 each.

Main Office: Baltimore Trust Building, Baltimore

"You Can't go wrong in a Day"

IF YOU HAVE A CRUSHING OR GRINDING
PROBLEM WRITE FOR INFORMATION ON
'DAY' PATENT HAMMER-MILL CRUSHERS

DAY PULVERIZER CO., KNOXVILLE TENN.



WE LOOK INTO THE EARTH

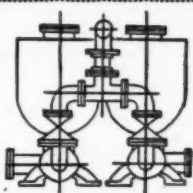
By use of Diamond Core Drills

We test foundations for buildings, bridges and dams. We prospect coal and mineral lands in any part of North and South America.

PENNSYLVANIA DRILLING CO.

1812 West Carson St., Pittsburgh, Pa.

Drilling Contractors



AUTOMATIC SEWAGE EJECTORS
SIMPLE, EFFICIENT, ECONOMICAL

Also Miller Flushtank Siphons, Sewage-Disposal Apparatus, Convertible Diaphragm-Plunger Pumps, Sewer Jointing Compounds.

PACIFIC FLUSH-TANK CO.

Write nearest office for catalog interested in.

4241 Ravenswood Ave.
CHICAGO

9 Park Place
NEW YORK



CEMENT GUN CONSTRUCTION CO.
The Original

GUNITE

Contractors

Estimates and information cheerfully given
537 So. Dearborn St., Chicago, Ill.
Pittsburgh Branch New York Branch
Oliver Bldg. Grand Central Terminal



Perforated Metal Screens
for every purpose

also elevator buckets MITCO Products—In-
of all kinds; chutes; terlocked Steel Grating;
hoppers; stacks and Shur-Site Stair Treads;
tanks. Armorgrids.

HENDRICK MANUFACTURING CO.

44 Dundaff St., Carbondale, Pa.

New York: 30 Church St.

Pittsburgh: Koppers Building



No. 1



No. 3

MANHATTAN

PERFORATED METAL CO., INC.

43 17-37th Street, Long Island City, N. Y.

PERFORATORS

of All Kinds of Metals for All Industries
Write for Copper, Brass, Tin, Zinc or
Aluminum Catalog



No. 7



No. 27

PERFORATED METALS HEADQUARTERS

Cotton Seed Oil Works a Specialty

Send for Samples

ERDLER PERFORATING CO.

Rochester, N. Y.

**Perforated Metals
SCREENS OF ALL KINDS**

Chicago Perforating Co.

2445 West 24th Place
Tel. Canal 1459 CHICAGO, ILL.

PERFORATED SCREEN PLATES AND SHEETS

For Ores, Coal, Stone, Gravel, Cement, Sand, Clay, Cotton-Seed Oil Mills, Cotton Gins, Phosphate Mines, Fertilizer Plants, Cyanide Works, Chemical Works, Etc.

Write for our New Catalogue

CHARLES MUNDT & SONS

490 Johnston Avenue

JERSEY CITY, N. J.

DIRECTORY

ARCHITECTS

ENGINEERS

CHEMISTS

GEOLOGISTS

CHEMICAL ENGINEERS

ACCOUNTANTS

CONTRACTORS

Detailed classification of specialized work undertaken by those having cards in this Directory will be found in Classified Index.

Milburn, Heister & Co.

Architects

WASHINGTON, D. C.

Wm. J. J. Chase, A. I. A.

Architect

Public and Commercial Buildings
140 Peachtree St. ATLANTA, GA.

Geo. Harwell Bond

—A-I-A—

ARCHITECT

Candler Building
ATLANTA, GEORGIA

G. Lloyd Preacher & Co., Inc.

Architects and Engineers

1204 Wynne Cloughton Bldg.,
ATLANTA, GA.

Chas. T. Main, Inc.

Industrial Engineers

Mills, Warehouses, Complete Develop-
ments
Electrical, Steam and Water Power
Reports—Appraisals
201 Devonshire St., BOSTON, MASS.

Claude H. Lindsley

Architects

Member American Inst. of Architects
JACKSON, MISS.

E. S. Draper

Landscape Architect and Engineer

Fellow American Society of
Landscape Architects1516 S. 4th St., CHARLOTTE, N. C.
101 Marietta Bldg., ATLANTA, GA.

Kirbye & Company, Inc.

Landscape Engineers

Offering a complete Landscape Service
including
Installation of Dayton Underground
Sprinkler Systems
RALEIGH, N. C.

Wendell P. Miller

and Associates

AIRPORT DRAINAGE SPECIALISTS
Engineers—Contractors
105 W. Monroe St., CHICAGO
85 E. Gay Street, COLUMBUS, O.

B. Russell Shaw Co.

INCORPORATED

Consulting and Designing Engineers

AIRPORTS — AIRLINES
Arcade Bldg., ST. LOUIS, MO.

James D. Lacey & Co.

Timberland Factors

Forest Engineering—Management
Aerial Surveys—Timber Reports
250 Madison Avenue, NEW YORK
231 So. La Salle St. CHICAGO
JACKSONVILLE — NEW ORLEANS

Airmap Corporation of America

Aerial Surveys and Maps
Consultants and EngineersThe AIRMAP—The Engineer's Aerial
Map for City Planning, Water
Supply Studies, Zoning,
Complete Aerial Tax Map Service
42 Flatbush Extension BROOKLYN, N. Y.

Invicta Engineering Company

Research and Development

Industrial Processes

Mechanical Inventions

Competent engineering service to plants
without engineering departments and
to individuals requiring such service.
P. O. Box 2494 BIRMINGHAM, ALA.

Ira G. Hedrick, Inc.

Mem.
A. S. C. E.

Consulting Engineer

Designs, Supervision, Estimates, Bridges
and Structural Work.
HOT SPRINGS NAT'L PARK, ARK.

Wadleigh and Bailey

Consulting Mining Engineers

Management, Investigation, Appraisal of
Mining Properties,
Fuel Consultants, Natural Resource
Surveys
One Broadway, NEW YORK, N. Y.
Southern Bldg., WASHINGTON, D. C.

Charlton & Davis

Civil Engineers

General Engineering Practice

Local Maps for Sale

FORT LAUDERDALE, FLA.

George B. Hills Co.

Drainage, Docks and Terminals

Suite 314 Liggett Bldg.
JACKSONVILLE, FLA.

Elroy G. Smith

Consulting and Designing
Civil-Hydraulic EngineerIndustrial Hydro-Electric Development
a Specialty
313-313-A Herald Bldg.,
AUGUSTA, GA.

Consoer, Older & Quinlan, Inc.

Mems. A. S. C. E.

Consulting Engineers

Water Supply — Sewerage — Industrial
Engineering
317 N. 11th St. ST. LOUIS, MO.
205 W. Wacker Drive, CHICAGO, ILL.

Harza Engineering Co.

Consulting Engineers

Dams, Hydraulic, Hydro-Electric,
Flood Control, and Sanitary Projects.
20 N. Wacker Drive, CHICAGO

J. E. Greiner & Company

Consulting Engineers

Design, Construction, Investigation, Ad-
visory Service—Bridges, Docks, Piers,
Warehouses and other Engineering
Structures.
1201 St. Paul St. BALTIMORE, MD.

H. K. Barrows, M. Am. Soc. C. E.

Consulting Hydraulic Engineer

Hydro-Electric Plants — plans, reports,
supervision and advice.
Water supply and hydraulic problems.
6 Beacon Street BOSTON

C. A. P. Turner

Consulting Engineer

M. Am. Soc. C. E. Reinforced Concrete
and Structural Steel Bridges, Buildings,
and Manufacturing Plants.
300 Builders Exchange Bldg.,
MINNEAPOLIS, MINN.

Walter H. Wheeler

M.A.S.C.E. and M.E.

Engineers

Mfg. Plants, Buildings, Bridges, Dams,
1000 Met. Life Bldg.,
MINNEAPOLIS, MINN.

Arthur L. Mullergren

Consulting Engineer

POWER SPECIALIST

770 Board of Trade Building
KANSAS CITY, MO.

Widmer Engineering Co.

Industrial Engineers

ST. LOUIS, MO.

Hugh L. Cooper & Co.

General Hydraulic Engineering —
Including the Design, Financing, Con-
struction and Management of Hydro-
Electric Power Plants.

101 Park Avenue, NEW YORK

Charles H. Herty

Industrial Consultant

Special attention given to the location
and development of industries utilizing
the natural resources of Southern States,
especially as affected by Chemistry.
101 Park Avenue, NEW YORK CITY

William S. Lee

Mem. Am. Soc. C. E.; Mem. Am. Soc.
M. E.; Mem. Eng. Inst. Can.; Fellow
Am. Inst. E. E.

Consulting Engineer

535 Fifth Ave. NEW YORK CITY
CHARLOTTE, NORTH CAROLINA

MacElwee & Crandall, Inc.

Industrial and Civil Engineers
Investigations, Reports, Design, Super-
vision—Port Development, Piers, Ter-
minals, Airports, City Planning, Water
Front, Reclamation, Industrial Surveys
Main Office: 11 West 42d Street
CAMBRIDGE, MASS. NEW YORK CITY

Ophuls & Hill, Inc.

Consulting Engineers

Steam and Electric Generating Plants
Industrial Installations
Ice Making and Refrigeration
112 West 42nd St., NEW YORK CITY

Howerton Engineering Co.

Consulting and Contracting Engineers

MUNICIPAL IMPROVEMENTS
HIGHWAY IMPROVEMENTS
Water Works, Sewer, Hard Surface
Streets, Highways, Contracting, Con-
struction, ASHEVILLE, N. C.

Gilbert C. White Co.

Consulting Engineers

WATERWORKS SEWERAGE
REPORTS PAVING
DURHAM, N. C.
RICHMOND, VA.

William M. Piatt E. E. M. S.

Civil, Hydraulic and Electrical Engineer

Assistant Engineers
P. D. DAVIS W. D. LINTON
W. B. GALLAGHER, JR. H. P. REDDING
C. A. HARRIS A. J. RICE
FONTAINE JONES P. A. ROBERTS
D. M. WILLIAMS DURHAM, N. C.

Morris Knowles, Inc.

Engineers

Water Supply and Purification, Sewer-
age and Sewage Disposal, Valuations,
Laboratory, City Planning.
PITTSBURGH, PA.

Fuller & McClintock

Engineers

170 Broadway, NEW YORK
Penna. Bldg., 13th and Chestnut Sts.,
PHILADELPHIA, PA.
Walsix Bldg., 600 Walnut St.,
KANSAS CITY, MO.

John McCrady Co.

Consulting Engineers

Peoples' Office Building
CHARLESTON, S. C.

W. E. Biggs Engineering Co.

Consulting Engineers

Power Plants and Industrial power ap-
plications. Economic use of power and
process steam.
Heating and Ventilating
Design—Supervision—Operation
Holston Bank Bldg.,
KNOXVILLE, TENN.

Gardner & Howe

Structural Engineers

Steel and Reinforced Concrete Buildings,
Bridges and Viaducts
Porter Bldg. MEMPHIS TENN.
Kirby Bldg. DALLAS, TEXAS

Freeland, Roberts & Co.

Consulting Engineers

Concrete and Steel Structures
NASHVILLE, TENN.

C. N. Harrub Engineering Co.

Member Am. Soc. C. E.

Civil and Sanitary Engineers
Water Supply, Sewerage, Paving and
Structural Improvements.
705-9 Fourth & First Nat'l Bk. Bldg.
NASHVILLE, TENN.

Engineering Service Corp.

Consulting Engineers

Civil-Electrical-Mechanical-Refrigeration
COLD and DRY STORAGE WAREHOUSES
DESIGNS
Reports—Appraisals—Designs—Surveys
Docks and Harbor Designs—Ind. Engr.
Water Sup.—Sewer Sys.—Oil and Gas Lines
HOUSTON, TEXAS, U. S. A.

Lee H. Williamson

MEM. AM. SOC. C. E.

Consulting Engineer

CHARLOTTEVILLE, VA.

Algernon Blair

Contractor

MONTGOMERY, ALA.

Hornbuckle Contracting Co.

INCORPORATED

Municipal Improvements
Industrial Village Utilities
ATLANTA, GA.

S. P. Rees

Contracting Engineer

Municipal—Industrial—Swimming Pool
Gravity and Pressure Filter and
Softening Plants
137 Huntington Road ATLANTA, GA.

S. E. Huey

Consulting Engineer

Natural Gas
Ouchits Bank Bldg. MONROE, LA.

Kansas City Bridge Co.

Established 1893

Builders of Railroad and
Highway Bridges
River Improvement Work
General Office, 1013 Baltimore Ave.,
KANSAS CITY, MO.

DIRECTORY

ARCHITECTS

ENGINEERS

CHEMISTS

GEOLOGISTS

CHEMICAL ENGINEERS

ACCOUNTANTS

CONTRACTORS

Detailed classification of specialized work undertaken by those having cards in this Directory will be found in Classified Index.

T. C. Thompson and Bros.

Incorporated 1895
General Contractors and Builders
BIRMINGHAM, ALA.
CHARLOTTE, N. C.

Angle-Blackford Company

General Contractors
GREENSBORO, N. C.

Charleston Constructors, Inc.

H. C. Cheves, Jr., President
J. A. McCormack, Secy. & Treas.
C. M. Trott, Engineer
58 Broad Street
Phone 3462 CHARLESTON, S. C.

Fiske Carter Construction Co.

General Contractors
GREENVILLE, S. C.
SPARTANBURG, S. C.

Poe Piping & Heating Co.

Contractors
For Power Piping, Heating and
Sprinkler System
108 S. Main St. GREENVILLE, S. C.

Lee A. Gridley Construction Co.

General Construction
CRANE SERVICE—FOUNDATIONS
KNOXVILLE, TENN.

Steel & Lebbey

JOHN A. STEEL, JR.
THOS. D. LEBBEY
Engineers and Constructors
The design and erection of concrete and
steel structures.
Helston Bank Building
KNOXVILLE, TENN.

The Warner Service Company

Electrical and Mechanical
Contractors
Cor. Clinch and Central Ave.
KNOXVILLE, TENN.

Charles W. Alpaugh & Sons

Hydraulic and Construction Engineers
Dams a Specialty; Investigations,
Estimates Free.
MANASSAS, VA.

Floyd Jennings & Co., Inc.

Plastering Contractors
132 Cain St., N. E. ATLANTA, GA.

P. L. Gomez & Company

Plastering Contractors
ATLANTA, GEORGIA

Walker Electrical Company

Electrical Contractors
General Offices: ATLANTA, GA.
Sales Offices:
ATLANTA, GA. COLUMBUS, GA.
GREENSBORO, N. C.

Industrial Electrical Company

Contracting Electrical Engineers
SAVANNAH, GA.

Hoosier Engineering Co.

Erectors of Transmission Lines and
Substations
100 W. Monroe St. CHICAGO, ILL.

John Eichleay, Jr. Co.

Steel Construction
Structural Steel
House Raising and Moving
Shoring and Foundation Work
South 20th & Wharton Sts.
PITTSBURGH, PA.

J. B. Converse & Co., Inc.

Engineers
Industrial Investigations, reports,
plans, estimates, supervision.
MOBILE ALABAMA

William Henry Harrison

Engineer
Tax Valuations, Commercial Appraisals,
and Analytical Reports.
Denrike Bldg. WASHINGTON, D. C.

E. T. Le Baron, C. P. A.

Member Florida Institute of Accountants
Admitted to practice before the
Treasury Department
Audits. Systems. Taxes.
JACKSONVILLE FLORIDA

The Picard Laboratories

Chemists and Inspecting Engineers
Inspection of Cast Iron Pipe, Structural
Steel, Cement, Railroad Equipment, etc.
Chemical Analysis of all kinds.
Representation in all Principal Cities
Clark Building, BIRMINGHAM, ALA.

Conard & Buzby

W. R. CONARD J. S. BUZBY
Inspection and Tests of Materials of
Engineering and Construction
Reports, Designs, Supervision
Construction
BURLINGTON, N. J.

Wiley & Company, Inc.

Analytical and Consulting Chemists—
Experts on Fertilizer Materials, Coal,
Greases, Food, Drugs, Dairy Products,
Chemical and Bacteriological Examina-
tions of Water for Domestic and Manu-
facturing Processes.
Calvert and Read Bldg. BALTO., MD.

Dow & Smith

A. W. Dow, Ph.B.; F. P. Smith, Ph.B.
Mem. Am. Inst. Ch. Engrs.
Mem. Am. Soc. Civ. Engrs.
Chemical Engineers, Consulting Paving
Engineers, Asphalts, Bitumens, Cement,
Paving Materials
131 East 23d St. NEW YORK

Stillman & Van Siclen, Inc.

Chemists and Chemical Engineers
Analysis and Inspection of Asphalt,
Paving Materials, Cement, Concrete
Building Materials.
227 Front Street NEW YORK
BEEKMAN 5261

Barrow-Agee Laboratories, Inc.

Chemists and Engineers
Analysis tests and inspection of all
building and construction materials.
MEMPHIS, TENN.
LITTLE ROCK, ARK.
JACKSON, MISS. SHREVEPORT, LA.

The J. B. McCrary Company

Engineers

ATLANTA

GEORGIA

MUNICIPAL IMPROVEMENTS

We design and construct Water-Works, Electric-light and Sewer Systems—Paving
and Road Work.

Wiedeman and Singleton, Inc.

(Successors to Paul H. Norcross)

Consulting Engineers

WATER WORKS, SEWERS, SEWAGE DISPOSAL
APPRAISALS, VALUATIONS, REPORTS
Candler Building ATLANTA, GA.

Hardaway Contracting Company

Engineers

Contractors

Water Power Developments, Bridges

COLUMBUS, GEORGIA

Byllesby Engineering & Management Corporation

231 S. La Salle Street

CHICAGO

NEW YORK

SAN FRANCISCO

Batthey & Kipp

Incorporated

Consulting and Constructing Engineers

Industrial Plants Power Plants
Railroad Shops, Terminals and Electrification
231 S. La Salle Street CHICAGO, ILL.

James W. Billingsley

Consulting Engineers

Investigations—Plans—Specifications and Supervision
Industrial Plants—Docks—Seawalls—Roads—Bridges and Municipal Work.
NEW ORLEANS, LA.

Spoon & Lewis

Consulting Engineers

Associates

Consulting Engineers

Water Works. Sewerage Works. Streets. Bridges. Industrial Plants.
Highways. City and Land Development. Port Development. Harbor Works.
Investigations—Designs—Supervision of Construction
GREENSBORO, N. C. BOSTON, MASS.

Fay, Spofford & Thorndike**SANDERSON & PORTER**

ENGINEERS

FOR THE

FINANCING—REORGANIZATION—

DESIGN—CONSTRUCTION

OF

INDUSTRIALS and PUBLIC UTILITIES

CHICAGO

NEW YORK

SAN FRANCISCO

The J. G. White Engineering Corporation

Engineers—Constructors

43 Exchange Place

NEW YORK

Scofield Engineering Company

Consulting Engineers

POWER AND INDUSTRIAL PLANTS AND PROCESSES.

Design—Construction—Valuations.

Commercial Trust Bldg.,

PHILADELPHIA

IF you wish to keep posted
on the progress of the
South, read the MANUFAC-
TURERS RECORD.

John W. Cowper Co., Inc.

General Contractors

State Planters Bank Bldg.

RICHMOND, VA.

J. E. Serrine & Company

Engineers

Factory Design: Hydro- and Steam-Electric Plants; Warehouses,
Steam Utilization, Sewage Systems, Appraisals, Valuations, Reports.
General Offices: GREENVILLE, SOUTH CAROLINA



Lockwood Greene Engineers, Inc.

Plans—Specifications—Reports—
Appraisals—for Industrial Plants

NEW YORK BOSTON CHICAGO CLEVELAND
CHARLOTTE SPARTANBURG

Ford, Bacon & Davis

Incorporated
Engineers

39 Broadway, New York
Philadelphia Chicago San Francisco

Kaustine Company, Inc.

Sanitation Engineers

Manufacturers of Private Sewage Disposal Plants,
Enamelled Iron Septic Tanks, Chemical Toilets,
Consulting and Designing

Dolbeer Building PERRY, N. Y.

Mees & Mees, Inc.

Engineers and Industrial Architects

Reports, Designs, Supervision of Construction, Appraisals,
DAMS—POWER PLANT—MUNICIPAL IMPROVEMENTS
INDUSTRIAL PLANTS

616 Johnston Building CHARLOTTE, N. C.

Floyd & Lochridge

Consulting Engineers

Hydraulic Investigations, Water Supply, Irrigation, Flood Control, Drainage
Dams, and Power Development.
Investigations for Financial Institutions.

Wilson Building DALLAS, TEX.

Wiley & Wilson

Consulting Engineers

PLANS, SPECIFICATIONS AND SUPERVISIONS
STEAM AND ELECTRIC POWER PLANTS
STEAM HEATING AND VENTILATING SYSTEMS
Complete Mechanical and Electrical Equipment for Public and Private Buildings
and for Institutional Groups.
MAIN OFFICE: LYNCHBURG, VA. BRANCH OFFICE: RICHMOND, VA

Cornell-Young Company

Incorporated
General Contractors

Railroads and Highways, Reinforced Concrete and Steam Shovel Work.
764 Georgia Casualty Bldg. MACON, GEORGIA

Frederick Snare Corporation

Contracting Engineers

Difficult Foundations and Engineering Problems a Specialty

114 Liberty Street
New York

PHILADELPHIA HAVANA

Tucker & Laxton

Contracting Engineers

Filters, Concrete Work, Hydro-Electric and Steam Electric Construction.
CHARLOTTE, NORTH CAROLINA

Hollowell, Gorham & Company
Auditors, Accountants, Industrial Engineers
COST SYSTEMS—AUDITS—TAX SERVICE
Special Investigations for Consolidations, Reorganizations, etc.
GREENSBORO, N. C. ROCKY MOUNT, N. C.

Webb Electric Company

Electrical Contractors

Industrial, Commercial and Institutional
Electrical Installations.
ANDERSON, S. C.

Allen J. Saville, Inc.

ENGINEERING AND CONSTRUCTION

Electric Building RICHMOND, VIRGINIA

Dixie Electro Plating Co.

RUST PROOFING ENGINEERS AND CONTRACTORS
UDYLITE PROCESS

PLANT CAPACITY PRACTICALLY UNLIMITED

Office and Plant

217 Caroline Street HOUSTON, TEXAS

B. Stanley Simmons, Inc. and Associates

A. I. A.

Architects

PUBLIC AND COMMERCIAL BUILDINGS

1315 H Street, N. W. WASHINGTON, D. C.
NEW YORK OFFICE: Fifth Ave. at 47th Street

Tilghman Moyer Company

Bank Architects and Builders

ALLENTOWN PENNSYLVANIA

Dame-Wolfe & Co.

INDUSTRIAL SURVEYS—FINANCING—
MANAGEMENT

815 15th St., N. W. WASHINGTON, D. C.

Robert W. Hunt Company

ENGINEERS

Inspection—Tests—Consultation

22nd FLOOR INSURANCE EXCHANGE, CHICAGO
Laboratories and Offices in all Large Cities

Walter H. Flood & Co.

Chemical Engineers

Inspection and Tests
Paving and Engineering Materials
Plant and street inspection on all types of pavements. Reports, specifica-
tions, consultation.
932 E. 44th St., CHICAGO, ILL. 321 Daniel Building JACKSON, MISS.

Pittsburgh Testing Laboratory

ANALYSIS INSPECTION TESTING RESEARCH

PITTSBURGH, PA.

Branch Offices in the Principal Cities

Froehling and Robertson, Inc.

Inspection Engineers and Chemists

Inspection of Cement, Steel, Pipe, Timber, Brick, Tile
Design and control of Asphalt and Concrete Mixtures.
Water Analysis a Specialty.

ATLANTA BALTIMORE NEW YORK RICHMOND

Southwestern Laboratories

Chemical and Testing Engineers

Inspection Steel and Cement for Bridges and Buildings. Creosoted Timber,
Asphalt, Brick, Cast Iron Pipe, Railroad Equipment, Bituminous Pavement
at Plant, Chemical Analyses, Etc. Representation at usual points of origin.
FORT WORTH DALLAS HOUSTON AMARILLO

Courtenay De Kalb

Mining Engineer and Economic Geologist

Reports on Mineral Products

Design and Advice on Treatment Plants for Ores and Non-Metallic Products
15 Gramercy Park NEW YORK, N. Y.

Sprague & Henwood, Inc.

Core and Wash Borings

For Buildings, Bridges, Dams and all kinds of Minerals
Anywhere in the United States or Canada

Main Office SCRANTON, PENNA.

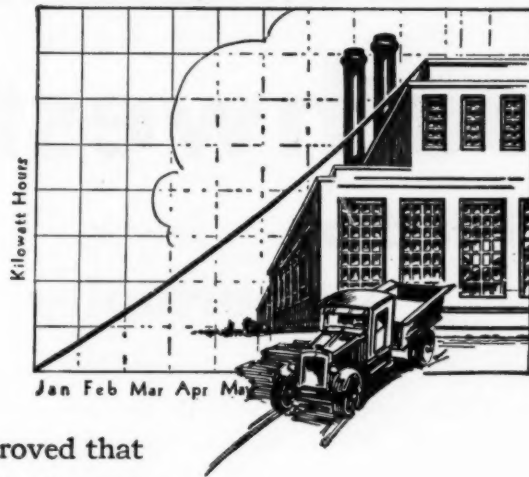
Mott Core Drilling Company

Diamond Core Drill Contractors

We Test Coal, Clays, and Mineral Properties, Foundation Testing, Dams,
Bridges, Buildings, Wash Borings, Dry Samples.

MAIN OFFICE HUNTINGTON, W. VA.

We Met The Peak Load



EXPERIENCE of the past year proved that the Kentucky-Tennessee Light & Power Company at Mayfield, Kentucky, would be hard pressed to supply the peak load demands during the cotton ginning season, October 1st to November 30th.

"Can you give us a rush job—a 3,500 k. w. turbine, boilers, automatic stokers, an additional stack, and cooling tower; and revamp our entire electric plant?"



It was a hard job, but it was tackled on June 23rd and September 30th the turbine was humming. Other improvements were made and the cotton gins in that vicinity operated to full capacity for the first time in several years. W. S. Barstow and Company is equipped to handle economically all phases of engineering, design and construction. Send for Construction Booklet.

W. S. BARSTOW & COMPANY, INC.

Engineering—Design—Construction

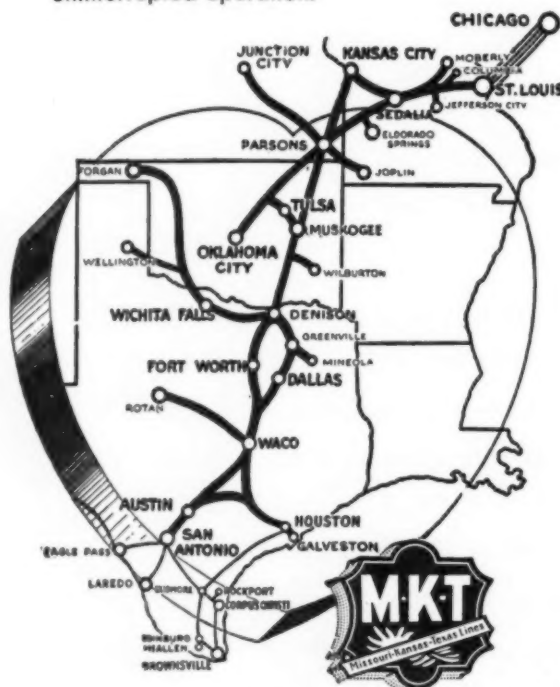
120 Wall St.
New York City

412 Washington St.
Reading, Pa.

Southwest

★ Land of Opportunity

LOOK at the map and study the territory served by the Missouri-Kansas-Texas Lines. Within the bounds of this territory you can find advantageous factory locations, an assured power supply, abundant raw materials, competent labor, lowered operative costs, and favorable climatic conditions for uninterrupted operation.



Know the Whole Story

Inquire of our Representatives where to locate your factory and make the most money running it! At your command — Our confidential and dependable service... a location to fit your particular requirements... Write for our "Industrial Opportunities" booklet.

Ask for More Detailed Information

Write Arthur E. Gilman, Manager, Department of Industrial and Agricultural Development, St. Louis, Mo., or T. L. Peeler, Industrial Commissioner, Dallas, Texas.

Factory and Warehouse Sites

AT

ATLANTA

For Sale or Lease

For Manufacturing or Warehouse Purposes Only
ON

Central of Georgia Railway

Extending from East Point to Inman, Georgia

Atlanta Rates	Regular Switching
Good Labor Supply	Service
Electric Power	Street Car Service
Water Supply	Suburban Trains
Electric Lights	Paved Roads
	Sewerage

Write for Copy of

"The Natural Advantages of the Atlanta Industrial District"

R. R. OTIS, Agent

Arcade Building

ATLANTA

GEORGIA

The EAST COAST of FLORIDA

is an integral part of the

INDUSTRIAL SOUTH

Industries that utilize vegetable and fruit products and industries that utilize timber and its products should investigate the possibilities of the East Coast section of Florida.

It will be our pleasure to assist you.

Write

J. W. Hoffman, Vice Pres.

Model Land Co., Flagler System

St. Augustine, Florida

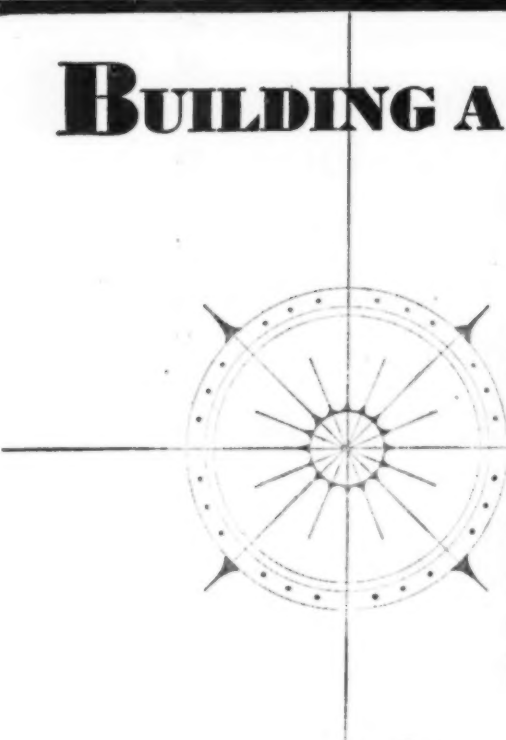
The late Henry M. Flagler and his organizations have served Florida since 1886

ESTABLISHMENTS for the manufacture of foods and kindred products are scattered throughout Alabama, except for the fish, crab, shrimp and oyster canning and preserving plants, which center along the coast near Mobile, and the slaughtering and packing plants around Montgomery and Birmingham. A large milk condensary at Tuscaloosa, a large cheese plant at Selma, and an enlarged butter-making plant at Montgomery are recent developments.

This is an extract from a comprehensive survey of Alabama made by the Alabama Industrial Development Board. As indicated above, there is a splendid and immediate opportunity for food manufacturers in Alabama . . . especially in dairy products, using milk and cream from the rapidly developing Alabama Black Belt dairying section. For copies of this survey of Alabama, address: Alabama Industrial Development Board, Brown-Marx Building, Birmingham, Ala.

T*HIS advertisement published through the courtesy of the Alabama Power Company, whose New Industries Division is actively cooperating with the Alabama Industrial Development Board in finding profitable locations for new industries in Alabama.*

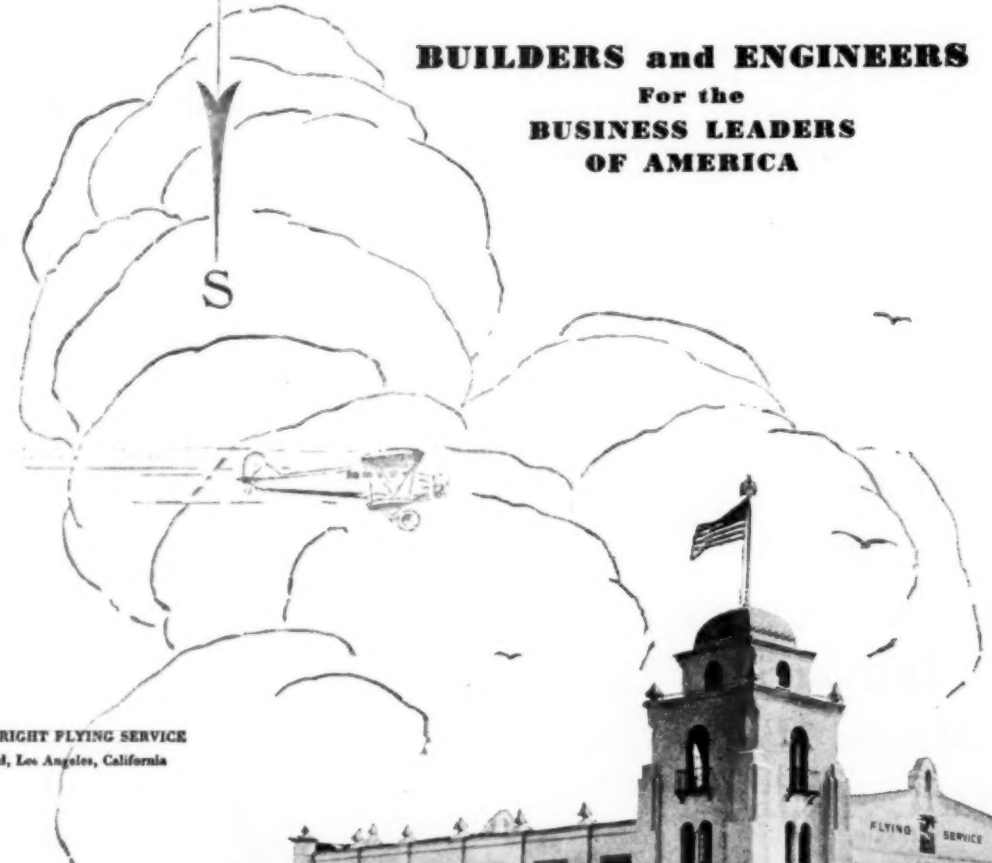
BUILDING A NATION-WIDE CHAIN OF AIRPORTS — —



Structures and facilities for Curtiss-Wright Airports Corporation and Curtiss-Wright Flying Service at fourteen airports, located in many parts of the country, are included among recent airport work completed or under construction by Stone & Webster Engineering Corporation.

BUILDERS and ENGINEERS

For the
BUSINESS LEADERS
OF AMERICA



CURTISS-WRIGHT FLYING SERVICE
Mines Field, Los Angeles, California



STONE & WEBSTER ENGINEERING CORPORATION .

A SUBSIDIARY of STONE & WEBSTER, INCORPORATED

TABLE OF CONTENTS

Baltimore, Md., June 19, 1930

EDITORIALS

The Land of Opportunity.....	Cover Page
The Tax Question.....	43
South Must Produce Better Cotton and Secure Higher Acreage Yield.....	44
To Stimulate National Thought.....	45
Why Surprising?	45
Summer in the South.....	45
Two Splendid Legislative Measures.....	46
Passage of Tariff Bill Incentive to Business Revival.....	46

NEWS and FEATURE ARTICLES

Moving the Earth.....	47
\$47,370,000 Power Development in Arkansas.....	52
\$1,000,000 Asbestos and Rubber Products Plant for Kentucky.....	52
One-Hundredth River Shipment of Steel Products Celebrated.....	53
Diversified Mining Industries in Western North Carolina.....By R. Carl Moore	54
Pushing \$100,000,000 Pipe Line in Texas.....	55
\$3,000,000 Bonds Offered by Gulf, Mobile & Northern Railroad.....	55
\$7,000,000 Vicksburg Bridge Now in Use.....	56
Promoting \$52,000,000 Channel in Texas.....	58
Mobile Plans 35-Mile Seawall.....	58
Opportunities for Alumina Cement Manufacture.....By Edwin C. Eckel	59
\$11,000,000 Paper Mill Under Consideration for Mobile.....	60
Growth of Texas Cities.....	60
Natural Gas and Its Future in the South.....By Edgar G. Hill	61
\$2,000,000 for Service Stations in Louisville.....	62
\$8,500,000 Power Development for Dallas.....	62
Contract for 120-Mile Railroad in Texas.....	62
Most of Country's Rock Asphalt Produced in South.....	65

SPECIAL DEPARTMENTS

Construction, New Industries and Contracts, 19 Pages Beginning on Page 67

Iron, Steel and Metal Market.....	63	Trade Literature	84
Highways and Motor Transport.....	65	Industrial News of Interest.....	85
New and Improved Equipment.....	66	Financial News	86

Classified Reference for Buyers..... 112

Alphabetical Index to Advertisers..... 128

MANUFACTURERS RECORD

RICHARD H. EDMONDS, Editor

Published Every Thursday
by the

MANUFACTURERS RECORD
PUBLISHING CO.

BRANCH OFFICES

Chicago—11 S. LaSalle St.
New York—901 Singer Bldg.

MAIN OFFICE
Manufacturers Record Building,
Commerce and Water Streets,
Baltimore, Md.

Subscription Rates: \$6.50 a year (in advance); six months, \$3.50; three months, \$2.00 to United States, Mexico, Cuba, Porto Rico, Hawaii and the Philippines. For Canada add postage \$1.00 a year. For other foreign countries add postage \$3.50 a year.

PUBLISHERS DAILY CONSTRUCTION BULLETIN AND BLUE BOOK OF SOUTHERN PROGRESS
Member A.B.C.

LESCHEN AERIAL TRAMWAYS

are economical carriers because

- they are correctly designed
- they are sturdily built
- they are not affected by weather conditions
- maintenance and operating costs are low

Made in different systems Your inquiries are solicited
Established 1887

A. LESCHEN & SONS ROPE COMPANY

5909 Kennerly Ave., ST. LOUIS
New York Chicago Denver San Francisco

GOLD SEAL LATHES

20x10 Lathe
\$975.00 F. O. B.
Cincinnati

All types
12 to 20 inch swing

The Sebastian Lathe Company, 2964 Culvert St. Cincinnati, Ohio

LEADITE

Trade Mark Registered U.S. Pat. Office

For Jointing Cast-Iron Water Mains
Saves at Least 75%

Leadite Tested and Used for Over 30 Years

Leadite Joints Improve with Age

The Leadite Co., Land Title Bldg., Philadelphia, Pa.

"See our Full Page Ad in 2nd issue each month"

No Caulking

Stewart's IRON AND WIRE FENCE

CHAINLINK FACTORY FENCE

Iron Picket Fence
Chainlink Wire Fence
Plain and Ornamental
Iron Gates
Chainlink Gates
Miscellaneous Iron
Work

For Full Information
Write



ORNAMENTAL IRON GATES

THE STEWART IRON WORKS COMPANY

619 Stewart Block

INCORPORATED

CINCINNATI, OHIO

BRONZE & IRON

CRAFTED BY

MICHAELS

SINCE 1876



Bronze and Iron Store Fronts
Bronze Double Hung Windows
Bronze Casement Windows and Doors

Fixtures for Banks and Offices
Welded Bronze Doors
Welded Extruded Bronze Doors
Elevator Doors
Check Desks
Lamp Standards
Marquises
Tablets and Signs
Name Plates

Railings, Cast and Wrought
Building Directories
Bulletin Boards
Stamped and Cast Radiator Grilles
Grilles and Wickets
Kick and Push Plates
Push Bars
Wire Work
Thresholds

WRITE FOR CATALOGUE AND PRICES

The MICHAELS ART BRONZE COMPANY

236-242 COURT AVE., COVINGTON, KENTUCKY

Manufacturers Record

Reg. U. S. Pat. Office

Devoted to the Upbuilding of the Nation Through the Development
of the South and Southwest as the Nation's Greatest Material Asset

Vol. XCVII No. 25 }
Weekly }

BALTIMORE, JUNE 19, 1930

{ Single Copies, 20 Cents.
\$6.50 a Year. }

The Tax Question

LIKE poverty, the question of taxation is always with us, a subject ever old, yet ever new, for each era and each generation has its particular tax problems to meet. In times of prosperity taxes are paid with only the usual amount of grumbling that most of us indulge in when settling our tax bills. It is during periods of business depression, with everyone critically analyzing every expenditure, that the amount of our taxes looms so formidably.

Measured by press comments throughout the country, the discussion of taxation in all of its phases has never been more general than at present. In recent weeks a partial check of such discussions indicates that the subject is receiving the close attention of many people, with the consensus of opinion definitely and most pronouncedly centered upon the imperative need of reducing the tax burden of the country. Something is radically wrong with a tax system which is bringing down upon itself from so many quarters such an avalanche of criticism and demands for relief as suggested by the following picked at random from recently published protests:

"Pyramiding Our Taxes."
"Rising Tide of Taxes."
"Taxes Getting Stranglehold on Industry."
"Tax Inequality."
"Taxation One of Our Pressing Problems."
"High and Confiscatory Taxes."
"The Taxation Issue."
"The Tax Muddle."
"What to Do About Taxes."
"Studying Tax Problems."
"A Road to Tax Relief."

The foregoing are samples of some of the tax protests which have appeared in the newspapers of the country and in such discussions almost every angle of the tax question is presented.

As one writer analyzes the situation, approximately a sixth of our combined earnings go to the support of the Government. The average per capita tax—national, state and municipal—advanced threefold in one decade and for every 11 persons who work to increase production and wealth there is one person on the payrolls supported by the public. Still the demand is for increased activity by the Government, which means a larger standing army of employes and higher assessment. Said one investigator: "I have been shown by landowners tax receipts covering a

series of years. They are indisputable evidence that the increased amount being paid in taxes by individuals today is staggering. It would seem that real estate taxes would be lower as a result of the collection of the vast amount of indirect taxes—sales tax, licenses, etc.—but such is not the case."

Public expenditure cannot be maintained at high levels indefinitely. Local taxes in some cases are almost confiscatory. This point was emphasized not long ago by a speaker who showed that since 1913 both national wealth and national income have doubled, while public expenditures have increased four times, and that all government taxes now amount annually to \$13,000,000,000 and are increasing at the rate of \$500,000,000 a year. He asked whether we could devote 20 per cent of our income to taxes and answered his own question by saying that no nation has done so and survived.

Direct taxes paid by farmers amount to more than \$900,000,000 annually, which is approximately 84 per cent of the general property taxes of the country, according to the Bureau of Agricultural Economics in its recent study of taxation of farm property. Is it any wonder that the agricultural interests are increasing their demands for tax relief when it is estimated that taxes are taking about 30 per cent of the net rent of farm real estate?

Several states do not tax real estate, and other states are taking steps toward relieving real estate of direct state taxes. Reclassification and segregation of property taxes is believed by the National Association of Real Estate Boards to be the initial move necessary in order to formulate an equitable program of taxation. Tennessee recently joined the ranks of states in which the state tax on real estate has been lifted, so that this fundamental commodity which now bears 75 per cent or more of the local tax burden is not subject to overlapping of state, county and municipal taxation.

It has been pointed out that the railroads of the country now pay almost one-quarter of their net earnings in taxation as an illustration of the stranglehold that taxation is getting upon industry. Should high taxation prevail in some portions of the country to the exclusion of other sections, local conditions could be ascribed as the cause, but the condition is general

throughout the United States, and according to reports from foreign countries their tax burdens are even heavier.

Mounting tax rates in the United States in many cases have been a result of the extensive growth of communities. Especially is this true of many Southern communities where the population increase has necessitated much public work to care for new residential development. In some instances, however, expenditures were made for anticipated needs of growing communities at a time of abnormal prosperity. When the slackening of business came, the authorities found they were operating under an enormous public debt with only dwindling tax revenues in sight. Assessments have remained excessive in spite of decreased property values the past several years. This has resulted in movements for equalization of taxes through equalizing assessment values in a community. It does not, however, reduce the general total of tax receipts, for the public debt must be paid off, and until it is reduced and expenditures are curtailed tax rates cannot be cut to any great extent. In the meantime, expenditures for public improvements should be held to the things absolutely necessary, projects for which the public can afford to pay.

Fred W. Sargent, president of the Chicago & Northwestern Railway Co., recently said that the fundamental policy to which all government action must conform is the policy that good government cannot exist with an impaired or threatened credit and a constantly increasing tax burden.

As one solution toward relief the MANUFACTURERS RECORD again makes the suggestion that there should be a consolidation of many smaller counties into one county. This is an age of consolidations and mergers; business has profited in many instances by merging small units into one large unit. Production and operating costs have been decreased in many lines by following such a procedure. Why not apply the same principle to our political units? In the boom days of Florida some of the larger counties were split up into several units, one county, as we remember, being divided into five different counties with five separate county officials and all the increased payrolls and expenditures that procedure entails. Practically every state in the Union could reduce the number of its counties and increase the efficiency of county government. Georgia with a land area of 58,725 square miles and 3,000,000 people has 161 counties; Texas with 262,398 square miles of land and 5,500,000 people has 254 counties, to mention only two states where county units could be merged to the advantage of the tax paying public. In these days of rapid communication—good roads and the automobile—there is no need for so many county units.

Likewise within the county units themselves there could be consolidation of offices and concentration of authority which would reduce expense of operation. A suggestion has been made for the establishment of a central office for collection of taxes for the counties and cities. Why not merge the county and city

courts into one? Why not merge other departments and institute an economy of government by avoiding duplication in public offices? Of course, local politicians would balk at such a suggestion, but this is a case where the business people of a community should assert their independence and their right to make a business administration of local governments. Otherwise they will continue to pay the added taxes necessary to run the local government under the antiquated system now prevailing. We should not stop public improvement work, but it is within the power of the public to apply modern efficiency methods to the conduct of government—local, state and national.

South Must Produce Better Cotton and Secure Higher Acreage Yield

MUCH attention has been directed lately toward the retrogression in the quality of American cotton and the improvement of the foreign growths. Secretary of Agriculture Arthur M. Hyde recently discussed this tendency and its disastrous effects on the American cotton grower. World production during the latest 5-year period has been at the record high rate of 26,400,000 bales annually, or 5,500,000 bales more than the average for the 5 pre-war years, while world consumption for the same two periods has been 24,700,000 bales and 19,500,000 bales respectively.

According to Secretary Hyde, "from one-half to two-fifths of the cotton produced in this country in 1928-1929 and 1929-1930 was seven-eighths inch or less in staple length. During these same two years, from three-quarters to four-fifths of all cotton produced was 15/16 inch or less in staple length while cotton one inch or longer in staple length made up only from one-fifth to one-quarter of all cotton produced. Eighteen per cent of all cotton ginned in the United States during 1928-1929 was untenderable, while 24 per cent of all cotton ginned during 1929-1930 was untenderable."

While world consumption of all cotton increased, world consumption of American cotton declined. The relative importance of American cotton, therefore, declined sharply. The reason is that although the American crop has increased in size its quality has deteriorated, while all foreign countries have made prodigious efforts, with a fair measure of success, to improve the quality of their growths at the same time they were increasing the volume. Thus, according to Secretary Hyde, "before the war Asiatic Russia had 1,500,000 acres in cotton. During 1929 she had 2,500,000 acres. Egypt had 1,743,000 acres in cotton before the war; in 1929 she had 1,812,000 acres. India has increased during the same period from 22,503,000 acres to 26,484,000 acres in 1929. Similar expansion is noted in new areas. Anglo-Egyptian Sudan, which grew only about 44,000 acres of cotton before the war, had 373,000 acres in 1929, while Uganda, Africa, increased her acreage from 58,000 to 699,000."

Several causes have contributed to this deteriora-

tion in the quality of our crop. The boll weevil has been one of them. The effort to get a crop that would mature before the heaviest ravages of the weevil has resulted in the selection of seed producing the short fibre, this being earlier in maturing. Another factor has been a measure of carelessness and indifference by many farmers in the selection of seed. In spite of some contention to the contrary, a very potent cause has been the system of country buying of cotton, whereby a farmer received no better price for his long fibre than for his short fibre. Since short fibre produces more pounds to the acre than most varieties of long fibre, it has been more profitable apparently for the farmer to grow the short fibre.

The Federal Farm Board has worked out plans, and expects to have them in operation by the next season, for the reversal of this system, so that the farmer will get paid according to the grade, bale by bale.

Short fibre, poor quality and low yield have resulted in a high percentage of untenderable cotton, low average price and high production cost. If the American cotton farmers are to make any money in the face of growing foreign competition, their salvation lies in high quality, sold on a quality basis, high acre-yield and low production cost.

To Stimulate National Thought

FROM the topics announced for discussion, and the high standing of the men and women who will discuss them, the fourth annual Institute of Public Affairs at the University of Virginia, August 3-16, unquestionably will be of deep interest and importance on many lines to all the country.

Prominent on the program are such topics as "Business and Government" and "Consumer Credit" yet none is of more importance to the nation and even the world than a round table on "The Economic and Industrial Development of the South."

The views of the various speakers will be of real value, but the stimulation of thought among all the people of the country will be at least equally worthwhile.

Why Surprising?

"A CENSUS of the heads of big business in the North would reveal some surprises for the people of the South," says Walter Parker, economist. Why "surprises"? Why shouldn't Southerners head many of the nation's greatest enterprises? They always have done it. The South has given to this nation more than its full quota of great and brilliant men.

The surprising thing—the simply amazing thing—would be to discover that the South, after the many brilliant leaders it has produced in past decades, had failed to keep up the stream of greatness.

Summer In The South

INDICATIONS that the vacation thoughts of many American people this year are turning strongly to summer trips in the South foreshadow an influx of visitors that may establish a new record. A word or two of explanation from the South about its summer attractions and comforts is all that is needed to swell the tide of travel southward. In the past most attention has naturally been paid to its attractions as a winter playground for the nation.

The average American on vacation seeks novelty above all other things, and the information and knowledge that come from interested observation of new and impressive features. Recreation and comfort follow in order of importance, with rest as the last major consideration. What has the South to offer to visitors on these various lines?

First of the novelties is the climate. Especially in the southern areas to which outside visitors will turn, the summer temperature compares favorably with sections northeast, north and west. The South is not the torrid region commonly supposed. It gets hot during the summer, and what section does not? On the June day in which this is written, the United States Weather Bureau reports the following thermometer readings: Portland, Me., 90 degrees; Boston, Mass., 92; Chicago, 88; New York, 87; Washington, D. C., 92. In the South at the same time the readings were: Galveston, 80; Jacksonville, 76; Miami, 82; New Orleans, 80; Savannah, 76.

To people who picture the South as a "sandy bottom" land, its mountains will prove another novelty—one hundred and thirty-six ranging from 5000 to 10,000 feet in altitude, hundreds from 2000 to 5000 feet high, and 3028 over 1000 feet. And in these mountains are tucked marvels of nature—caves and grottoes of indescribable wonder and beauty—streams and waterfalls and lakes—novelties, without end, of every kind.

The sight of cotton growing in the fields and figs and oranges on the trees is to the average outside visitor the same novelty that snow is to the dweller in the far South, and the huge fish and crabs and oysters of the South are other natural novelties to folks from interior sections.

For recreation, the visitor will find every feature provided in any other section, and some forms not so well known. Outdoor and indoor, on sea and inland waters, in field and forest and in mountain, the visitor will find inexhaustible stores of clean, invigorating recreation.

Comfort of the Southern style expands into hospitality. Fine hotels and boarding houses and auto camps abound, and all are pervaded with an atmosphere of welcome which doubly intensifies the comfort.

In recent years, the newly inspired South has told other sections much about its industrial advantages, with almost incalculable benefit to the industries of those sections as well as to itself. Hundreds of millions of dollars in manufacturing enterprises have

been transplanted from other sections to the South and the national prosperity has been proportionately enhanced. But hundreds of thousands of persons still are ignorant of the South, yet ready to visit it if informed of its attractions and given just a little encouragement.

The Community Advertising Association of Chattanooga plans actively to attract 500,000 visitors to that city during these summer months. This means millions of dollars for Chattanooga, as the News of that city comments. In other cities and counties and states in the South, similar campaigns are under way or contemplated.

The vacation visits of these thousands of outsiders can be made to mean much more than thousands or even millions of dollars. These Southern trips should be made a fixed annual feature in the national life, and no doubt will be made so in increasing measure.

Two Splendid Legislative Measures

LOUISIANA, through its representation in Washington, has played a leading part in two recent pieces of indisputably constructive legislation of national scope. The first is the bill for the National Institute of Health, conceived and persistently pushed by Senator Ransdell. The second is the bill for the establishment in the Bureau of Standards of a National Hydraulic Research Laboratory, fought for by Senator Ransdell and Congressman James O'Connor, also of Louisiana.

The first, the National Institute of Health, will be a great research institute, richly endowed, to make fundamental researches into the causes and the cures or prevention of the most serious of human ailments. In this sort of research, Senator Ransdell has pointed out, the government spends lavishly for advancing the health of pigs, cattle and plants, but almost nothing for humanity. Through the National Institute of Health, the government will do for humanity what it has done for the lower orders of life.

The National Hydraulic Research Laboratory has long been a dream of the engineering profession of the nation, and it has been advocated by that great engineering fraternity, the National Engineering Council. General Lytle Brown, Chief of Corps of the Army Engineers, at the hearings this session, came out frankly and vigorously for it.

For both of these measures Senator Ransdell has fought long and well, and in each he has had the whole-hearted support of the MANUFACTURERS RECORD.

On the second measure, that providing for the National Hydraulic Research Laboratory, the current bulletin of the American Engineering Council says that for this "Senator Joseph E. Ransdell, Congressman James O'Connor and Mr. John R. Freeman are chiefly responsible."

Thus Louisiana's representatives in Washington put themselves at the head of broad-gauged legislation designed to benefit all states alike.

Passage of Tariff Bill Incentive to Business Revival

ENACTMENT of the tariff bill by Congress and, as this is written, promise of approval by the President should largely relieve the uncertainty, suspense and tension which have exercised a deterrent brake on American business for at least 18 months. Enactment of the measure informs American business of the conditions which confront it, and removes one of the greatest and last remaining obstacles to progress.

Designed "to provide revenue, to regulate commerce with foreign countries, to encourage the industries of the United States, to protect American labor," the bill appears generally to attain each of these objectives. The measure carried 235 decreases and 887 increases, and 250 of the increases are on agricultural products.

The South on the whole has fared well. It will enjoy a major share of an increase of 14.14 per cent increase in protective duties in the new bill over the law it will supersede, for agricultural products and provisions. Likewise, some lines of manufacturing will benefit by advances in duties. Finally, some products of the mines and the forests are strengthened against cheap foreign competition.

"Cotton having a staple of one and one-eighth inches or more in length, seven cents a pound," reads a paragraph in the bill. No item of thousands in the measure is in its way of more importance to the South, especially in encouraging production of better quality, long-staple cotton, as the MANUFACTURERS RECORD long has urged.

The textile manufacturing industry in the South receives similar stimulation. Producing about 67 per cent of the domestic cotton goods output, the South will participate in a tariff increase of 6.15 per cent for cotton manufactures, in the new bill over the law of 1922.

For the rayon industry, which centers in the South, an increase of 0.94 per cent has been provided, which would raise duties amounting to \$6,019,359 under the 1922 law to \$6,126,964 under the new bill. In 1929, the production of rayon in the United States, principally in the South, ran to 125,000,000 pounds, and the added protection no doubt will help largely to raise it to the 170,000,000 pounds anticipated for this year.

Although higher rates on raw sugar were described to the Senate as primarily in the interest of the sugar beet growers of the West, the sugar cane interests of the South will share in the increase of 9.36 per cent provided in the new bill over the old law. The Louisiana cane crop, valued at \$19,000,000 last year, undoubtedly will be increased, and the cane production of Florida will be encouraged.

In the opinion of many students of the tariff, the flexible clause adopted will provide a safety valve of great importance, and the enactment of the new law should presage better business in the future.



Northwest No. 2 Dragline Cranes Building Highway Through a Swamp

Moving the Earth

IT was well enough for the ancient philosophers to theorize about moving the earth with a lever actuated by a force of sufficient strength; for they had ample time to meditate and could well afford to engage in lengthy discourses. But in this mechanical age, little time may be spared in theorizing. When the earth is to be moved to make way for an industrial or building operation, it is moved—in sections, of course—and not by an imaginary lever resting on an imaginary fulcrum and driven by an imaginary force, but by a very material agency in the form of power - excavating and earth-moving equipment.

Such equipment, of modern design and of much greater efficiency than the mule, the wagon and the scrape, which it supplements and replaces, is playing an important role in many Southern construction and development operations, including foundation building, hydro-electric, mining, highway, drainage, and other industrial projects. Numerous illustrations of

In Ancient Greece
Philosophers Talked
About It

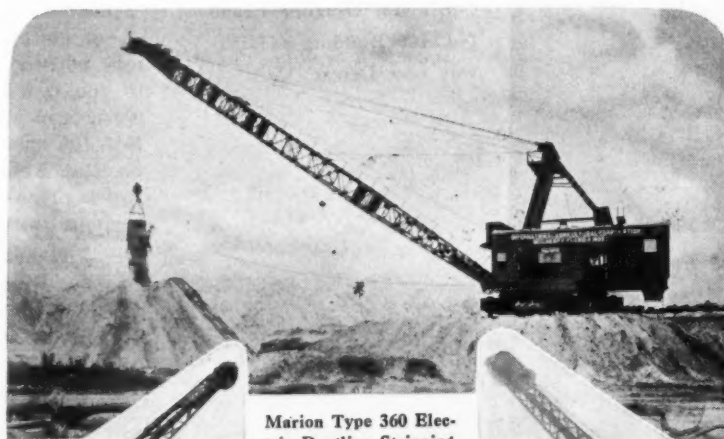
Today, in America,
Modern Machinery
Does It

this use of power earth-moving equipment in the South can be cited. Especially is this activity pronounced at Saluda, S. C., where the Lexington Water Power Com-

pany is constructing a 11,000,000-cubic yard earth core dam. The Arundel Corporation, Baltimore, contractors for the project, are employing numerous earth-moving machines, including a Lorain 75 dragline, three Americans, two Industrials and one Marion. Swinney & Coleman of Selma, Ala., had one of these machines, Diesel engine driven, giving good account of itself on a 250,000-yard approach fill for a bridge over the Tombigbee River. From 1000 to 1200 yards of material were moved per shift.

Construction of the Harahan Bridge at Memphis Tenn., required a lengthy embankment, so T. J. Galley & Co., the contractor, made use of a Sauerman tower dragline system. This machine, with a 4-yard bucket, built up the embankment in horizontal layers and handled the tough clay and gumbo at the rate of almost 50,000 cubic yards per month. In one month 62,000 yards were piled up.

F. J. McGuire of Norfolk, Va., in building a portion of the famous Ta-



Marion Type 360 Electric Dragline Stripping Overburden in Pebble Phosphate District of Florida



2-Yard Bucyrus Erie 50-B Diesel Dragline on a Water Improvement District Project in Texas



Byers Master Dragline Taking Gravel from a Deep Pit in the Vicinity of Nashville, Tenn.



Two Link Belt
Crawler Excavators
on a
Hydro-Electric
Construction Project
in Kentucky

This Bay City Machine Digs Clay for
a Texas Brick Yard

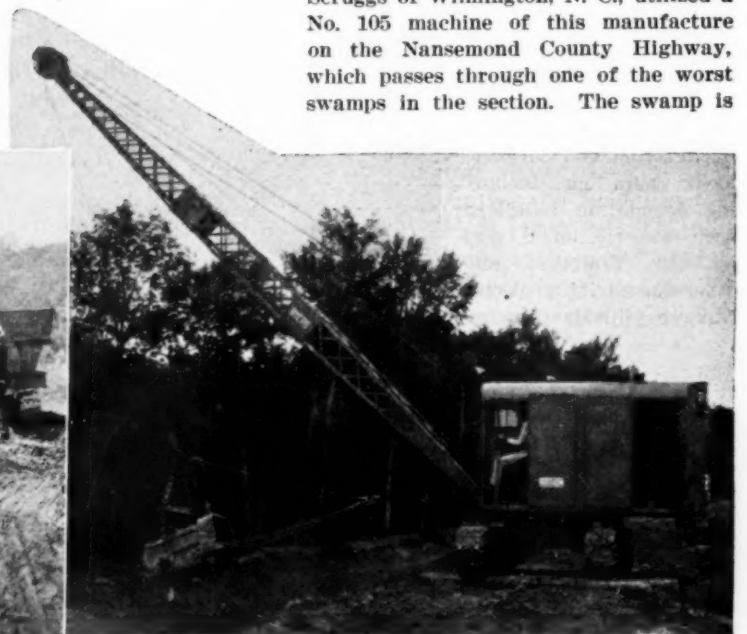


Northwest Dragline Crane
No. 105 Building a High-
way near Driver, Va.

miami Trail through the Florida Everglades and along the coast of the Gulf of Mexico, used two Northwest No. 2 crane draglines in the unusual fashion of one machine on each side of the highway cutting a borrow pit and casting to the center for the fill. Hudson & Scruggs of Wilmington, N. C., utilized a No. 105 machine of this manufacture on the Nansemond County Highway, which passes through one of the worst swamps in the section. The swamp is



Lorain 75 in a Borrow Pit on State
Highway Project in Tennessee



Byers Dragline Equipment with 3/4-yard
Bucket at Work on a Drainage Ditch

Bucyrus 100-B
3-yard Electric Shovel
in Quarry of
Phoenix Portland
Cement Co.,
Birmingham



Two 30 Caterpillar Tractors and Ball
Wagon Graders Excavating for 150-
Foot Street Leading to Atlanta Muni-
cipal Airport



dotted with gum tree stumps and the outfit had to dig out and pull up many of them. Heavy oak mats, 10 by 14 feet, were necessary to keep the crawlers from being hopelessly mired in the soft mud.

At Mulberry, Fla., the International Agricultural Corporation uses two Marion, type 360, electrically driven draglines to remove overburden from pebble phosphate rock deposits. For the past 14 months the American Cyanamid Co.

1-yard Link Belt Trench Hoe Dig-
ging 20-foot Trench and Laying
60-inch Sewer Pipe on Con-
struction Job in Arkansas.



Lorain 75 at Work on the Great Saluda
Earth Dam near Columbia, S. C.



Universal Truck Crane with Hinged Dipper Boom,
Cutting a Highway Through an Alabama Forest

has utilized a similar type dragline in its operation at Brewster, Fla. The Alabama Rock Asphalt Co. has a one-yard Hayward bucket which has been used successfully in cleaning overburden from asphalt rock at its Margerum quarry. The property was heavily timbered, the stumps being removed by the bucket before the lumpy, sticky clay was tackled.

The Hayward Limerock Co. digs its overburden with a Hayward bucket. A Bucyrus-Erie electric revolving shovel is used to load the quarried rock into cars at the Whites Uvalde Mines, Uvalde, Texas. The Phoenix Portland Cement Co., Birmingham, Ala., has a 3-yard, electrically driven, revolving shovel of the same manufacture, engaged in its quarrying operations. At Ocala, Fla., the Ocala Limerock Co. digs its overburden with a Hayward bucket.

Lake County, Fla., takes a Mead-Morrison half-yard dragline excavator and builds roads through marshes, or with equal facility wades into hills of more rugged land. Moving earth within a radius of 42 feet, this machine dumps anywhere within a 35-foot radius. Hidalgo County Water Improvement District No. 2, San Juan, Texas, uses a 2-yard Bucyrus-Erie Diesel dragline in its operations. The ingenuity displayed in development of dragline buckets is demonstrated in one owned by the city of Ormond, Fla. This Koehring No. 501 bucket travels along the narrow berm, or shelf, between a highway and a drainage ditch, with marshland beyond, throws its bucket clear across the ditch, drops it and brings it back across the bottom.

In Tennessee the Otto Kocitzky Co., of Kenton, uses a Byers dragline with $\frac{3}{4}$ -yard bucket and 40-foot boom in a similar operation, the tractor crawler moving 15 to 20 feet at a time. The same type equipment is used by the Es-

Cleveland Baby Digger
in Operation on Gas
Extension Line Distribut-
ing in Birmingham,
Alabama.



Byers Machine, Grading
Site for a Filling Station
in Memphis, Tenn.



Mead-Morrison Half-
Yard Dragline on
a Florida Highway



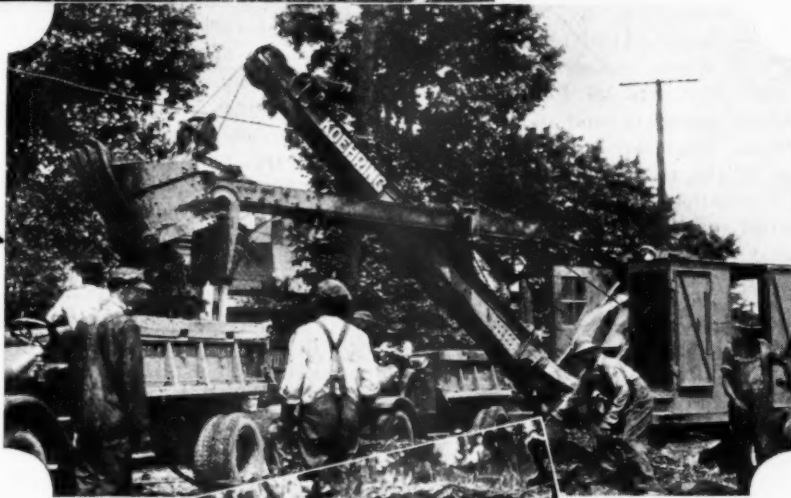
No. 501 Koehring Dragline Owned by the City of
Ormond, Florida





Equipped with a Shelter and Head-lights This Bay City Trench Hoe Can Operate Day and Night in All Weathers

Koehring Shovel at Work on a Job for Knoxville Railway and Light Co.



Showing How a Hayward Dragline Bucket Bites In



A 4-Cubic Yard Sauerman Tower Machine on the Harahan Bridge Project in Memphis



til Springs Sand and Gravel Co., Nashville, Tenn., to reach into a deep gravel pit and swing the load up into cars on the spur track alongside.

In the handling of sand and gravel, as is the case in other activities of this nature, what might be termed auxiliaries augment the excavator. At the plant of the Central Sand & Gravel Co., Memphis, Tenn., such equipment in the form of a Stephens-Adamson belt conveyor carries the sand and gravel 600 feet to the screening and washing plant from the riverfront where a 1½-yard clamshell bucket unloads the material from the barges. The Mississippi River Sand Co., St. Louis, uses overhead conveyors of the same make for unloading its material from the river barges and a system of underground conveyors for reclaiming the material from storage.

The Alabama State Highway Department uses a Universal crane shovel mounted on a Mack truck for cutting a highway under adverse conditions. In Tennessee, Jamison Brothers used a Lorain 75 tractor-mounted shovel to dig borrow pits for the fill leading up to an underpass. Two Link Belt crawler crane shovels waded into the muck while engaged in excavation on the hydro-electric project of the Louisville Hydro-Electric Co. at Louisville, Ky.

Another handy little earth-mover is the convertible Bay City tractor shovel owned by the Waterman Brick and Tile Co., Waskom, Texas. This machine traveled more than 60 miles under its own power the first week of its operation, the brick company using it to dig test clay in various parts of the country before deciding upon a location for its clay products plant. A machine of the same type, equipped with headlights for night work and a trench hoe, is used by J. N. Castillo, England, Ark., for digging trenches in the sticky gumbo clay of southeast Arkansas. The L. L.

McEachin Construction Co., Little Rock, and the Dellone Construction Co., Dallas, Texas, used a Link-Belt, type 35, trench hoe to dig a trench 20 feet deep and to lay 60-inch lock-joint pipe in the trench at Fort Smith, Ark. In trenching operations connected with extension of gas lines at Birmingham, Ala., the Birmingham Gas Co. employed what is called the Cleveland Baby Digger, a junior trencher for use where a larger machine cannot be operated.

W. H. Downer, owner of a plantation near Holly Bluff, Miss., uses a Bay City dragline powered by a McCormick-Deering Model 20 Industrial tractor to throw

up individual levees to protect the land from backwater.

Associated with the moving of the earth is the "reshaping" of the earth as done by the grader. In the building of airports this is a major operation. At the Candler Airport, Atlanta, Ga., the reshaping of the earth was accomplished by Blaw-Knox Ball wagon graders drawn by Caterpillar tractors. To make a 150-foot street leading to the airport these wagon graders carried 80 cubic feet of dirt to the fill on each trip, a spreader blade at the rear of the grader smoothing the fill after the dump was made. From 350 to 375 cubic yards of

dirt can be handled daily by these wagon graders, which both excavate and load without the necessity of previous plowing of the ground, although it be of very hard clay.

And so examples could be mentioned indefinitely. The world moves on, and if the ancient philosophers who once speculated on the lever and force needed to move the earth could catch up with the times and see how the job is done today, they would doubtless be as much surprised as they would have been in their own day had someone shown them the mechanism with which to realize their dreams.

\$47,370,000 POWER DEVELOPMENT

White River Power Company Seeks Authority to Build Three Dams to Generate 400,000 Horsepower

Pine Bluff, Ark.—Application has been filed with the Federal Power Commission by the White River Power Company, Pine Bluff, H. C. Couch, president, for authority to build three dams in Arkansas for a hydro-electric development to generate 400,000 horsepower. As set forth in the application, which was filed for the company by Elbert L. Smith of Pine Bluff, the largest dam would be built on the White River, one on the Buffalo River and one on the north fork of the White River. The cost of construction is estimated at \$47,370,000.

The White River dam would create a lake 95 miles long with an area of 65 square miles, while the North Fork dam would create a lake 33 miles long with an area of 6000 acres. The Buffalo River lake would be somewhat smaller. An important feature of construction would be the reduction of the flood stage along the White River, it is said, the dams affording almost perfect stream control and making it possible to regulate to a certain degree the White River from the dams to the Mississippi River. The White River development would be carried out in four steps, the dam approximating a half mile in length and being 225 feet high. The first construction stage would involve a dam 125 feet high and an installed capacity of 66,000 horsepower. Succeeding stages of construction would bring the dam to its full height with an installed capacity of 265,000 horsepower. The North Fork development, to cost \$13,000,000, and the Buffalo River development to cost \$6,260,000 would provide an additional 135,000 horsepower. Transmission lines, substations and distribution systems are

not included in the estimated cost of the project.

The White River Power Company is the successor of the Dixie Power Company, organized by the late Walker Powell, and the Ozark Hydroelectric Company, organized by Mr. Couch, Charles S. McCain, Frank Pace, C. H. Moses and others. Officers of the company, in addition to Mr. Couch, include L. Garrett, secretary, and W. E. Baker, treasurer. Engineers are now making studies of the rivers, drilling to determine foundation conditions and making industrial surveys. The Phoenix Utility Company, New York, is handling the engineering.

Better Business Signs

Tangible evidence of better business in Georgia is found in sales figures of the merchandising department of the Georgia Power Company for the first five months of 1930. During that period total sales were \$1,160,887, as compared with \$812,695 for the corresponding five months of 1929.

The amount of business done by the merchandising department during the past May was nearly as much as was done during the entire year of 1925, when sales amounted to \$524,271.

With 90 stores, covering about two-thirds of the state, and 150 salesmen operating in or out of these stores, the figures of the Georgia Power Company are far from being isolated or merely local in their application.

\$1,000,000 School Bonds Sold

Louisville, Ky.—An issue of \$1,000,000 school bonds has been sold by the city of Louisville to a syndicate composed of the Chase Securities Corporation and Kean, Taylor & Co., New York, and Otis & Co., Cleveland, Ohio. The purchase price was 100.01 for \$295,000 of the bonds as 4s and \$705,000 as 4½s.

\$1,000,000 KENTUCKY PLANT

New Enterprise to Manufacture Asbestos and Rubber Products

St. Matthews, Ky.—The first unit of a \$1,000,000 plant here to manufacture asbestos and rubber products and combinations of such products will be started at once, according to Lawrence Bernard Palmer-Ball, St. Matthews, president of the Palmer Asbestos & Rubber Company and the Palmer Equipment Company, both of Chicago. A 5-acre tract on the Louisville & Nashville railroad has been acquired for the plant, the initial unit of which will be two stories, of fireproof construction, to cost \$250,000. The Louisville plant will specialize in the production of brake linings and blocks, while making other products, and will serve principally the Southern, Southeastern and Southwestern trade. Facilities of the Chicago division will be devoted mainly to serving Northern, Eastern and Western territory. In addition to brake linings and blocks, the company produces asbestos pipe covering, asbestos cloth, steam packings, steam and gasoline engine gaskets and items for railroads, automotive and other industries. Advantageous labor conditions in this section, which includes Louisville, are said to have induced the Chicago company to locate its Southern division at St. Matthews.

Bids on \$950,000 Federal Building Extension

Richmond, Va.—Bids will be opened July 7 in the office of Jas. A. Wetmore, Acting Supervising Architect of the Treasury Department, Washington, D. C., for remodeling and extension of the United States post office, court house and custom house here, for which \$950,000 is available. Separate bids will be received for elevators. Drawings may be obtained from the office of the Acting Supervising Architect.

One-Hundredth River Shipment of Steel Products Celebrated

The Jones & Laughlin Century Tow, Comprising 14 Barges Loaded With Materials Sufficient to Fill 250 Railroad Freight Cars, Visited by Thousands in Ohio and Mississippi River Cities



Century Tow Leaving Aliquippa Works of Jones & Laughlin Steel Corporation on the Ohio River near Pittsburgh

WHEN Jones & Laughlin Steel Corporation recently sent its one-hundredth tow of steel products down the Ohio River from Pittsburgh, it made the occasion one of great celebration at cities of call clear down to New Orleans. Fourteen barges loaded with 10,000 tons of steel products for the company's warehouses in the South and Southwest made up a cargo that would have filled 250 ordinary freight cars.

More than eight years and a half ago, in October, 1921, Jones & Laughlin's first great shipment of steel products went down the river as an experiment to determine whether such shipments would be practicable. "It was the pioneer movement that led to the present-day use of the inland waterways by steel companies. All down the valley this tow was hailed by river men, business men, manufacturers and newspapers as 'The Steel Argosy' and predictions were made that it marked the dawn of a new day on the rivers. This prediction is rapidly coming true and the time is not far distant when not thousands but millions of tons of steel and other commodities will move to and fro on the Ohio and Mississippi rivers each year to the gain of the whole nation in economies in the costs of national distribution."

Similar tows now go out twice every month, stocking the company's warehouses for distribution by rail. They carry seamless and welded steel pipe

for Texas and Oklahoma oil fields, structural steel for building and construction projects in wide variety, tinplate for can manufacture in the South, barbed wire fencing for Western and Southwestern farms and ranches, kegs of nails and spikes, steel piling, bars, shapes, reinforcing steel and other steel products.

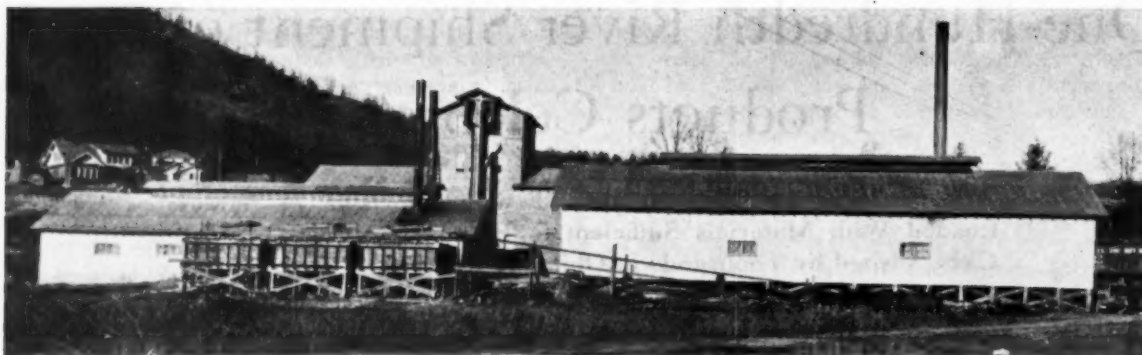
Ordinarily such a tow makes the run from Pittsburgh to Memphis in seven days. The Century Tow spent 14 days on that portion of the trip, stopping at many Ohio River and Mississippi River cities to permit the public to come aboard and see how modern methods have revolutionized river shipping since the colorful packet days. All told, many thousands of people took advantage of the opportunity. Mayors, Chambers of Commerce and other civic bodies made the visit the occasion for great celebration. Schools closed that children might learn of this modern method of bulk handling of river cargoes.

Captain Oscar Barrett of Cincinnati, president of the Ohio Valley Improvement Association, veteran river man and tireless worker for many years in the interest of a nine-foot channel from Pittsburgh to Cairo in the Ohio River, said of the Century Tow:

"This practical demonstration of the actual use of the rivers by a great steel manufacturer for delivery of manufactured products will accomplish a great deal of good in educating the public to the value of the waterways to them-

selves as citizens. Jones & Laughlin have always been consistent users of the rivers for transporting their coal and other raw materials, and of late years for delivery of finished products into the South and Southwest. As soon as the first of J. & L. steel tow went down river in 1921, we who struggled for so many years to accomplish the construction of the series of 50 dams and locks in the Ohio River, which event was celebrated in 1929, could feel the resistance in Washington to our project give way. Almost at once Congress assumed a friendlier attitude toward the inland waterways. The fact that a practical shipper had started to use the rivers was the cause. From that time on it became easier and easier to convince Congress and the public that this nation has an asset of tremendous economic value in its navigable rivers. We businessmen men of the Ohio and Mississippi Valley think that the practical demonstration by Jones & Laughlin Steel Corporation hastened by several years the day when the Ohio river system of dams and locks was completed. Complete canalization, however, is still to be accomplished by dredging channels to the depth called for in the original project, and this work will be done by the Army engineers just as fast as Congress furnishes the money in the rivers and harbors bills. In a few years we hope to see millions of tons of freight moving on the Ohio-Mississippi river system, where hundreds of thousands move today."

Most of the barges of the Century Tow finished their journey at Memphis, but a few were carried on down to New Orleans by the Inland Waterways Corp.



Mica Reclaiming Plant of Harris Clay Co., Spruce Pine, N. C.

Diversified Mining Industries of a Small Area in Western North Carolina

By

R. CARL MOORE,
Micaville, N. C.

SPRUCE PINE is the hub of the greatest non-metallic mineral producing section of western North Carolina. From the comparatively small area, included roughly within a 15-mile radius, there comes approximately one-half the country's production of crude feldspar, a very large proportion of the output of sheet or dimension mica, the entire production of some other types of mica and a large proportion of the country's supply of residual kaolin, as well as smaller quantities of asbestos, cyanite, and a number of other minerals either mined alone or occurring as by-products of the mica and feldspar mines. Development of these mining industries has led not only to increased activity in the actual mining field, but it has resulted in an extensive mill building program during the past two years.

North Carolina Leads in Feldspar

The feldspar industry has shown a steady growth. There are now many

large mines and hundreds of small mines around Spruce Pine, while the number of grinding plants has increased from one to five during the past three years. Two new plants were erected in 1929. Of these five mills, two are at Spruce Pine, and the other three are well within the feldspar producing district. This recent increase in milling facilities enabled North Carolina in 1929 to take first place in the grinding as well as the mining of feldspar. This mineral is used chiefly in the glass and ceramic industries.

Mica Industry Expands

There are now two dimension mica manufacturing plants, two wet-process mica mills, one dry-process mica schist mill, and five mica schist reclaiming plants in this area. One new mica schist

reclaiming plant was erected last year, and plans for another are reported under consideration. These reclaiming plants salvage great amounts of decomposed mica which impregnates the ground



Kaolin Mine



Grinding Plant of English Mica Co., at Spruce Pine

throughout the district; this was formerly wasted along with other foreign materials cast aside by extensive kaolin workings. The plants are mostly small in size, employing only a few men each, but the total value of the material they salvage is important. The product goes mostly to the roofing trade, as does that of the dry-grinding mica schist mill. Output of the sheet or dimension mica plants is taken principally by the elec-

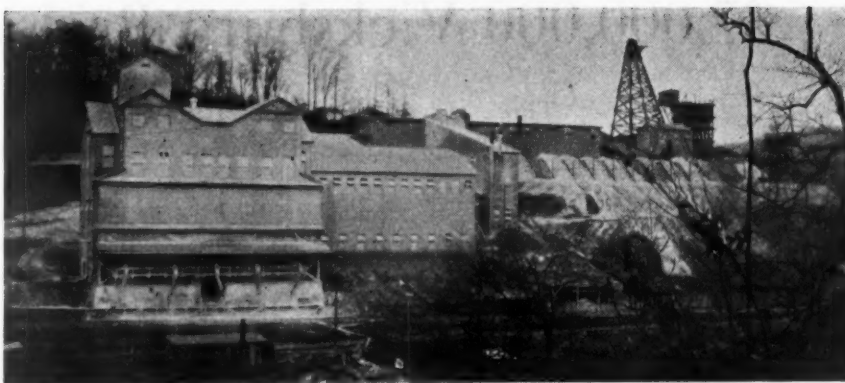
trical and glazing industries. The highest grade of wet ground mica goes to the wall paper, the decorative plaster and the rubber industries, while a much lower grade produced in Spruce Pine is taken almost entirely by the rubber industry. Sheet mica manufacturing plants have been heavily hit of late years by large importations of sheet mica from abroad under a low tariff.

Seven Kaolin Mines

There are seven residual kaolin mines near Spruce Pine, four located within a mile and each with a clay washing plant attached. Kaolin is used chiefly in the ceramic trades. The four mines at Spruce Pine also supply the five mica reclaiming plants with material, as this type of mica reclamation has proved profitable only when undertaken in conjunction with hydraulic operations of the clay mines.

Large Cyanite Deposits

One mineral that remains to be developed on a large scale in this area is cyanite, extensive deposits of which occur near Spruce Pine. Its use is still in an experimental stage, but a thorough program of research work has for some time been in progress at Burnsville, 15 miles distant, and reported satisfactory results have been obtained. Should this prove true, cyanite may rival feldspar in value in some parts of this district.



Feldspar Mill, Tennessee Mineral Products Corporation

Other minerals in this section are graphite and marble. Also, flint frequently intrudes into feldspar veins and is mined as a by-product of that material. There is a considerable amount of asbestos and at Minneapolis, 20 miles from Spruce Pine, is a small asbestos grinding plant. Semi-precious stones such as garnets, aquamarines and amethysts are sometimes encountered in the feldspar and mica mines, while some of the largest emeralds ever discovered in the United States have been found.

Spruce Pine is on the North Toe River, and is traversed by the Clinchfield Railroad and by the Appalachian Scenic Highway. It is an important road center and its location near the point where

the Black Mountains strike the Blue Ridge places it within easy distance of a number of noted mountain resorts. There are in the town two hotels, one bank and a high school. A hospital is soon to be erected. While the main industries are dependent upon mineral production, there are many other local industries. The surrounding country is thickly populated and there is an abundance of native white labor. One feature marking the development of educational facilities is the establishment of various schools specializing in native arts and crafts; among these should be particularly mentioned the Appalachian Fireside Industries at Penland, four miles from Spruce Pine.

PUSHING \$100,000,000 PIPE LINE

Project to Carry Natural Gas from Texas to Chicago

Amarillo, Tex.—The Natural Gas Company of America has been organized to finance and operate the proposed \$100,000,000 natural gas pipe line from the Texas Panhandle to Chicago, according to Henry L. Doherty & Co., New York, identified with the Cities Service Company, one of the interests involved in the project. The Insull interests, the Standard Oil Company of New Jersey, the Texas Corporation, the Skelly Oil Company, the Phillips Petroleum Company and the Columbia Carbon Corporation are also interested in the enterprise. The Continental Construction Company was recently organized to build the line and, under the direction of the Doherty organization, offices have been opened in the Professional Building, Kansas City, Mo. Contracts are now being placed for 1000 miles of 24-inch high pressure pipe, while an additional 1000 miles of pipe ranging from 8 to 16 inches will be used for auxiliary and lateral lines. Construction will

start at once on compressor stations of a total capacity of 70,000 horsepower, which will be increased to 100,000 horsepower after the line is completed.

Sub-Contracts on \$1,000,000 Building

St. Louis, Mo.—The following sub-contracts have been awarded by the Boaz-Kiel Construction Company, St. Louis, general contractor for the first unit of a \$1,000,000 toll building here for the Southwestern Bell Telephone Company, St. Louis, I. R. Timlin, architect:

Metal windows—St. Louis branches of Crittall Casement Window Co., Detroit, Mich., and the Campbell Metal Window Corp., Baltimore.

Glass and glazing—Hadley-Dean Glass Co., St. Louis.

Fire doors—St. Louis Fire Door Co.

Movable partitions—E. F. Hauserman Co., St. Louis.

Cut stone and granite work—Pickel Stone Co., St. Louis.

Terra cotta—Winkle Terra Cotta Co., St. Louis.

Finish hardware—Ratz Bros. Hardware Co., St. Louis.

Miscellaneous and ornamental iron and steel work—Mississippi Valley Structural Steel Co., St. Louis.

Painting—J. W. O'Connell Painting Co., St. Louis.

Asks Six Months to Complete Railroad

Chevrolet, Ky.—The Louisville & Nashville Railroad applied to the Interstate Commerce Commission for an extension of six months in which to complete a 13-mile line from Chevrolet through the Cumberland Mountains to Hagans, Va. This project, begun in 1927, is important as providing a route from Eastern and Southern Kentucky coal fields to the Atlantic seaboard and Southeastern states. It will cost \$5,300,000.

\$3,000,000 Railroad Bonds Offered

Mobile, Ala.—Through a syndicate headed by Kuhn, Loeb & Co., New York, the Gulf, Mobile & Northern Railroad Company, I. B. Tigrett, president, offers an issue of \$3,000,000 first mortgage 5 per cent gold bonds, series C, due October 1, 1950. Strother, Brogdon & Co., Baltimore, are handling the sale of \$250,000 of the bonds. These securities are a part of an issue of \$15,000,000 authorized a few years ago and upon the sale of the \$3,000,000 there will be \$10,000,000 outstanding.

\$7,000,000 Vicksburg Bridge Now in Use

Three Mile Railroad and Highway Structure First to Span
Mississippi River Between Memphis and the Gulf

THE \$7,000,000 combination highway and railroad toll bridge recently completed over the Mississippi River at Vicksburg, by the Vicksburg Bridge and Terminal Co., Harry E. Bovay, president, is the first to span the river between Memphis and the Gulf of Mexico, a distance of 850 miles. First work on the structure, which is of the cantilever type, was started in March, 1928. In April, 1930, the first automobile was driven over the roadway. Appropriate ceremonies marked the formal dedication on May 20, 1930, and the bridge is now in operation.

Length of the bridge is in excess of three miles. The main river crossing consisting of a cantilever structure about 1665 feet long and four truss spans totals 2931 feet. Three of these trusses extend from the west anchor pier of the cantilever span to a steel trestle 4110 feet long, which in turn connects with a 3600-foot fill on the Louisiana side. Creosoted pine piles were driven to carry the concrete pedestals of the steel trestle. From the east or Mississippi side of the cantilever, a 180-foot deck truss extends to pier 1, the shore pier, where a steel trestle carries the highway deck on a curve toward the north. The railroad approach on this end of the project is a single track spur about 4000 feet long with heavy cuts and fills and a 160-foot tunnel, followed by 300 feet of steel trestle from the abutment to pier 1, where the highway and railroad approaches converge.

The highway deck is a reinforced concrete slab 18 feet wide and six inches thick, on a structural steel floor system. To mix the concrete for this deck the contractors used a concrete plant

mounted on a flat car with cement storage on one end, and sand and stone on another flat car. Chutes with the aid of towers carried the concrete into the forms. The railroad deck is open with creosoted ties placed directly on the longitudinal steel girder stringers.

Steel in the superstructure carried on the river piers was erected from both ends of the project where independent storage yards and separate equipment were used. At the east end a gasoline locomotive moved the material from the right-of-way where it was stored to the erecting crews. Storage at the west end was along a siding of the Vicksburg, Shreveport and Pacific Railroad, about one and a half miles from the river bank to which a steam dinky carried the materials. A small gasoline locomotive was used to switch and place materials for the erecting crew.

In erecting this river superstructure the contractors employed the cantilever method with the aid of one false bent between piers. However, in place of the usual overhead traveler, guy line derricks were used to erect the steel. These derricks were mounted on a heavy steel base and moved on a series of rollers, the main guy line extending between two or three piers. Four side guys, with block and fall, were tied into the top chord at panel points. Over piers number 3 and 4 the mast and boom of the derrick was jacked up on a temporary base 30 feet high in order to erect the top chords, which over these piers are 120 feet above the bottom chords. Although the moving of these derricks was a slow and tedious process requiring about six hours, the American Bridge Co. pronounced them very satisfactory.

Substructure of the river structure involves eight piers, one on each bank

and six in the river. Both of the bank piers are carried on piling, and the base of the west pier is 48 feet below the ground line. Dimensions of the bases of the six river piers, all of which are built on pneumatic caissons, vary from 40 by 92 feet, to 25 by 67 feet. Hollow shafts rising in some cases to a height of 151 feet form the upper part of the piers, the foundations for four of which were carried 110 feet below the average low water stage. This foundation work required about 56,000 cubic yards of concrete in piers supporting the river span and approximately 10,000 cubic yards of the same material in the approach trestle piers.

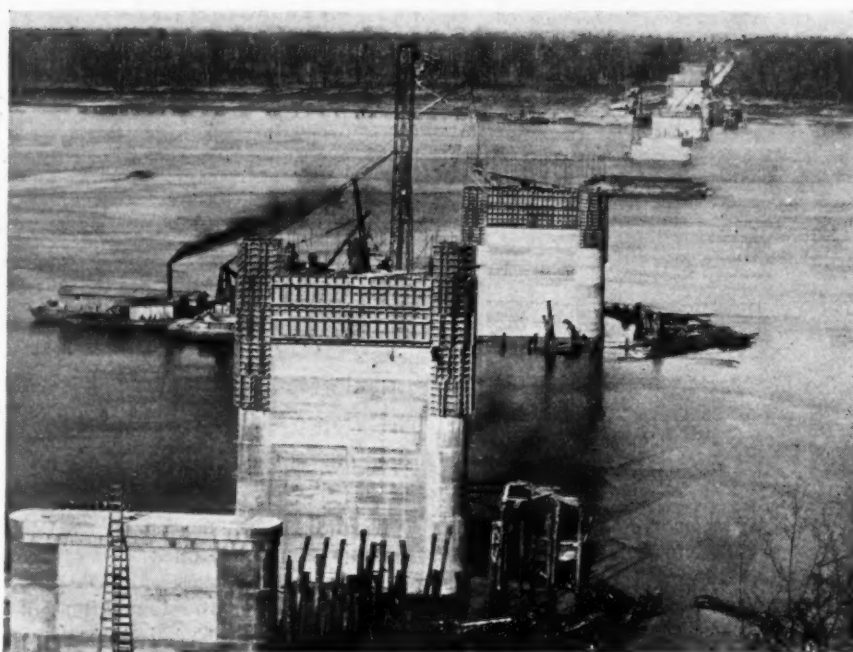
Numerous difficulties were encountered in building this substructure. One of the greatest obstacles was the high water which prevailed at the time of beginning work on the piers, which cut the expected working period from 150 days to 105 days. This condition prevented completion of Pier No. 4, the steel caisson for which was launched in July, 1928, until some time late in the fall of 1929. Although original plans called for all-timber floating caissons, these were changed at the contractor's request to allow use of steel caissons 20 feet high, surmounted by timber caissons 30 feet high and a timber cofferdam. This design permitted quicker construction and launching of the caissons. Other advantages were that the use of reinforced concrete and steel in the sides and roof of the working chamber provided a tighter structure, a very desirable feature in work involving, as in the case of several of the caissons, 52-pound air pressure. Greater space was also provided in the working chamber where rods and braces such as are needed in timber construction, were unnecessary.



This New Bridge Is Already Handling a Large Volume of Motor Traffic

The structure replaced the railroad ferries also, and all through trains are moving over it.

To have them ready as soon as the waters subsided, the caissons were built and launched as rapidly as possible and tied up afloat until needed. Two of these, sunk in comparatively shallow water, allowed use of the pile dock or slip for holding and lining up the caisson while afloat. The four deep water piers required a departure from this method. The nature of the river bottom required that the weight of the piers be kept as low as possible, so the caisson bases of the deep piers were only 50 feet in height, and when the cutting edge of the caissons for the deepest piers reached final grade, there was more than 60 feet of shaft of the finished pier poured. Because of the swift current special anchors were developed to assist in landing and sinking the caissons. One type, weighing nine tons, was a mushroom shaped structure, seven feet in diameter by two and a half feet high, built of concrete around a light steel framework. Heavier anchors were needed for two of the caissons in the deepest water. These anchors consisted of 16-inch H-beams from 18 to 30 feet long, driven into the river bottom nearly full length, about 600 feet upstream from the piers in water up to 70 feet in depth by using a special type of follower. To prevent scour at the three piers located on sand, lumber mats



Showing the Piers in Process of Construction.

hard to dig with a dredging bucket, and time did not permit rigging up a submarine drilling and blasting outfit, the caisson was used as a diving bell. Derrick stones were dumped into the low places and the caisson was towed into place and concreted until its shoe

and the approaches, and topping out the river piers as the foundations were completed. This equipment was about twice the amount that ordinarily would have been used on such a project. Three steam-operated compressor boats with a capacity of 3000 cubic feet per minute, supplied air to the caissons. Derrick boats with 75-foot boom revolving steam cranes replaced the usual stiffleg barge-mounted derrick. Two floating concrete plants—one 1½-yard and the other a 1-yard plant—were used. They were each equipped with storage bins loaded by a stiffleg derrick from barges alongside. In topping out the piers, each plant used a hoist tower, one of these being 125 feet high.

In yard work a locomotive crane was used; for approach work, three crawler cranes, and for the shore piers and land piledriving, three revolving cranes on a wide-gage track, two of these cranes with 85-foot booms, were used. A large fleet of barges was available for handling sand, gravel, cement, coal, timber and piles. Most of the equipment was designed and developed especially for the project. More than 700 men, 300 of whom were sandhogs, were employed at the peak of operations. Gasoline-operated boats carrying 40 men each operated on a definite schedule 24 hours a day to all parts of the project from the central base.

This base was located about a mile above the bridge site on the Mississippi side, where convenient railroad facilities were obtained. Separate yard tracks were built to handle each class of material. To permit efficient transfer of material from cars to barges, one track was carried out into the river on

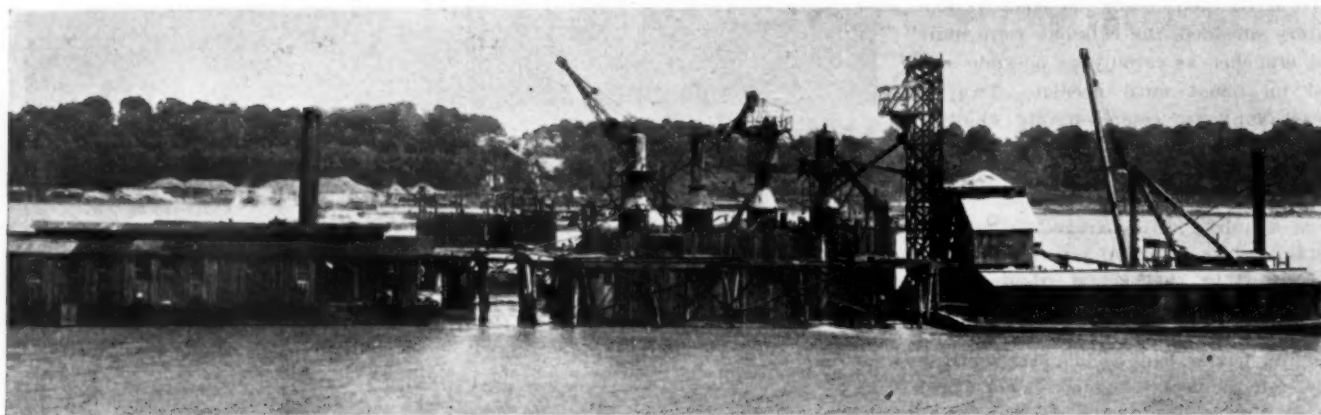


Lumber Mat Used to Prevent Scouring While Construction Was Under Way on Those Piers Which Were Built on Sand.

were used, woven of 1 by 4-inch boards, and sunk by weighting with one-man stones. These mats, 400 feet long and 250 feet wide, were constructed on barges at the pier sites. Another unique feature in construction was involved in landing pier 3. Carrying the east end of the cantilever span, this pier is located on a reef, part of which is soft rock and the rest very hard clay. In the 40-foot width of the caisson this reef had about 7 feet of slope toward the channel. As the material was too

floated just clear of the riverbed. Sandbags were deposited around the outside and the caisson was flooded with enough water to overcome the buoyancy developed by air pressure. After the sandhogs, or caisson workmen, had leveled up the bottom, the air was taken off, the caisson guyed into position, then floated and sunk as were the others.

The short working season made it necessary to have enough equipment and men to work simultaneously on two of the deep river piers, the shore piers



Sinking the Caisson for One of the Piers.

a trestle. Another trestle allowed storage of 1200 cubic yards of gravel. Under the stockpile a short tunnel was built, in which a belt conveyor operated to a dock, where the belt discharged directly into barges. In addition to launching ways for the steel caissons, the base yard also contained offices, storehouse, sawmill, carpenter shop, machine shop and blacksmith shop. For construction of the long approach trestle on the Louisiana side a separate plant was established. This approach is 4111 feet long and required 4500 tons of steel for the superstructure.

Included in the materials required for the structure were 16,000 tons of structural steel; 27,000 cubic yards of concrete in the pier bases; 29,000 cubic yards of concrete for the pier shafts;

9600 cubic yards of concrete for the west approach; 3000 piles; 300 tons of reinforcing for the piers; 713,000 board feet of lumber for the foundation and 790,000 board feet of creosoted timber for the railroad deck; 2800 cubic yards of concrete for the floor slab of the roadbed, with 260 tons of reinforcing steel, and 500 tons of steel for the railroad tracks.

The bridge was designed by the Kansas City firm, Harrington, Howard & Ash. The actual designer, Louis R. Ash, died about a month before completion of the work. P. V. Pennybacker was resident engineer for the engineers. The American Bridge Co., New York, was contractor for the steelwork of the river spans and east approach, the Virginia Bridge & Iron Co., from its Memphis

plant, furnishing and erecting the steelwork for the west approach trestle. J. A. Kries & Sons Co. was contractor for the tunnel under Warrenton Road, track laying and grading work. The U. G. I. Contracting Co., a division of the United Engineers & Constructors, Inc., was contractor for the river piers and the Louisiana approach substructure. Woods Brothers Construction Co., Lincoln, Neb., built the channel mats and the St. Louis Structural Steel Co. designed and built the floating steel caissons, both acting as subcontractors to the U. G. I. company. F. S. Harvey was field supervising engineer for the latter organization, with R. G. Stowell as superintendent and John R. Flick and James J. Dennedy as assistants, and O. T. Hand, field engineer.

PROMOTING \$52,000,000 CHANNEL

Trinity River Navigation Association Pushing 600-Mile Project

Fort Worth, Tex.—At a session of the executive committee of the Trinity River Navigation Association, recently organized to make the Trinity River navigable for a distance of approximately 600 miles, a conference was held here with Roy Miller, Corpus Christi, Tex., vice-chairman of the executive committee of the Intra-Coastal Canal Association, with a view to securing his services in the promotion of the Trinity River project. It is thought the formation of a strong financial and public educational organization to secure the full support of shippers of the state should be the first step in the program of the Association for carrying out the project, estimated to cost \$52,000,000. Mr. Miller is of the opinion that the Government would authorize a 9-foot channel in the river and that Federal aid would be available if the Association

can secure the proper support of shippers and the public. John Carpenter, Dallas, is president of the Association, while Walter B. Scott, president of the Fort Worth Chamber of Commerce, is chairman of the executive committee.

Plans for 35-Mile Seawall

Mobile, Ala.—Marking an advance in its plans to promote the construction of a 35-mile seawall and driveway along the western shore of Mobile Bay, the Mobile Chamber of Commerce is having bills prepared by Edward J. Grove, chairman of a sub-committee, in accord with a method of procedure recommended by the seawall committee of the Chamber. It is planned to introduce the bills in the Legislature as soon as possible after it convenes next January, so that construction may be started as soon as practicable. The seawall and driveway would terminate at Dauphin Island at the entrance of Mobile Bay. John E. Toomey is chairman of the general seawall committee of the Chamber of Commerce.

Richmond Telephone Building Completed

Richmond, Va.—The first unit of the new 8-story building at Grace and Seventh streets in this city of the Chesapeake & Potomac Telephone Company of Virginia has been completed and is now occupied. The cost of the unit, which is 144 by 73 feet, was about \$1,300,000. The first floor is occupied by the business office and record room, the second and third floors by new dial equipment, the fourth by the long distance operating room, the fifth by operators' quarters and general traffic manager, the sixth by long distance testing equipment, Morse operating apparatus and district offices of the American Telephone and Telegraph Company, and the seventh and eighth floors by executive offices. General contract for the building was handled by the Consolidated Engineering Co., Inc., Baltimore; contract for excavation by the Foundation Co., New York, and contract for structural steel by the McClintic-Marshall Co., Pittsburgh, Pa.

Opportunities for Alumina Cement Manufacture

By

EDWIN C. ECKEL,
Washington, D. C.

FOR the first time since its invention it is now possible to envisage an intelligent and growing alumina cement industry in the United States, one whose growth and success, that is, will not be hampered by artificial (legal or illegal) restrictions, and will be limited only by the enterprise of those who take it up, and by the appreciation of their customers, the engineers and contractors of America.

The legal or patent situation is now precisely as follows: The Spackman patents of 1912, which described no process but did ostensibly at least cover the product itself, have been extended until June, 1935, under a very special act passed in 1928. The Eckel patents of 1924-5-6 are freed by agreement from any possible subservience to those Spackman patents, so that no one need fear patent litigation if he takes up the manufacture of alumina cement under license in a furnace, with incidental recovery of pig iron, high-silicon iron or even ferro-silicon. The U. S. Bureau of Mines has tested these Eckel processes with entirely successful results; the official report is published in its Serial No. 2869 of April, 1928.

As to the effect of all this on actual American development, we have certain facts to date and certain probabilities for the future. To date, the alumina cement industry, covered by the quasi-monopoly of the Spackman patents in this country and free everywhere else, has developed slowly in America. At present the United States produces and uses about ten per cent of the world output. It produces less than Asia; it uses less than North Africa; it makes about as much as a single foreign company shipped in last year into a single Canadian city. Part of this remarkably bad record for us is high cost and price under the methods heretofore adopted; part is apparently due to other causes which need no discussion here.

In order to make an alumina cement of absolutely high quality and steady grade, and to do this at a cost which will permit its sale at say \$2 to \$3.50 per barrel anywhere in the United States, the process used must be one which can utilize low grade bauxite and produce iron or ferro-silicon as a by-product. To do that requires in turn only two appliances:

A. Furnace capable of developing melting temperatures; therefore any iron or copper blast or smelting furnace, any open-hearth furnace, any electric furnace will do very well. An ordinary

foundry cupola can be rigged up so as to produce good alumina cement; obviously a better appliance with larger output, hearth capacity and draft is more economical. All this means that every blast furnace plant, every steel mill, every copper or other metal-smelting plant or refinery in the United States already has this very essential part of an alumina cement plant, about half of the total investment needed is already in place.

B. Grinding and packing apparatus for the finishing of the cement; just as in making Portland, natural or slag cement. So that every Portland, natural or slag cement mill in the United States already has this other essential part of an alumina cement mill.

It is obviously economic for the new alumina cement industry to be taken up as a side-line by a plant already possessed of half the apparatus needed, instead of being developed entirely *de novo* by people who have to build the whole plant for the new cement. But at this moment no one can say which of the two possible courses the industry will take. It may be taken up and developed by the iron or copper industries, or even by the aluminum industry. Or it may, with a late realization of the cold facts, be taken up by the more intelligent and progressive of existing cement manufacturers. Failing either alternative, it may be developed by entirely new interests, not at present too deeply involved in either the iron or cement industries. *But that it will be developed on a very large scale by one group or another is in this progressive country an absolute certainty.*

For the United States, the cheap raw material supplies are Arkansas and Missouri diaspore bauxite for the Midwest mills; Alabama-Georgia-Tennessee bauxite for the Southeast; imported bauxite for the Northeast and Middle States; alunite residue for the Colorado-Utah region; local or imported ores for the Pacific Coast markets.

I do not know of any important market area in the United States or Canada where a really high-grade alumina cement could not be supplied at a price of from \$3.00 to \$3.50 per barrel. And in saying this I am not assuming that the new industry is engaged in a charitable enterprise; at such prices it will make good profits per barrel. And by offering a cement of special quality at

reasonable price it should be possible to market it in terms of millions of barrels annually in a country such as this, where there is a demand for quality, and money to pay for it.

For it must be recalled that alumina cement is not only the quickest hardening of cements, with all the advantages that implies; it is also very resistant to sea-water attack, which is why the British Navy Department insists on its use, and it has special advantages in very cold waters.

In its development the South should have a very large share indeed. For it will be noted that the bulk of our domestic bauxite supplies occur in the Southern States; that the needed coke or electric power are also in the same states; that they already have iron, copper, steel and cement mills which could be easily and cheaply adapted to a new product; and that they include good market areas and have cheap access to other markets.

\$640,000 School Bonds Voted

Rosslyn, Va.—A bond issue of \$640,000 for the improvement of school buildings and for refunding purposes has been voted by Arlington County. Funds from the sale of the bonds will be used as follows: Forty-two room addition to Washington-Lee High school, \$255,000; 4-room addition to Henry Clay school, \$22,500; 4 rooms to Stonewall Jackson school, \$22,500; 4 rooms to James Monroe school, \$25,000; 4 rooms to Nellie Custis school, \$22,500; 4 rooms to Patrick Henry school, \$20,000; 2 rooms to Woodmount school, \$12,000; 4 rooms to Jefferson colored school, \$20,000; furniture and equipment, \$15,000, and refunding former debts, \$225,000. Fletcher Kemp is the superintendent of education.

\$2,000,000 Flood Control Bonds

West Palm Beach, Fla.—At a joint meeting here of the Everglades Drainage and the Okeechobee Flood Control boards Governor Doyle E. Carlton, Glenn Curtiss, State Senator A. W. Young and Howard Selby were named as a committee to push the validation of a \$2,000,000 issue of the drainage district bonds for the payment of the district's share of the cost of the flood control project. The district has authority to issue bonds up to \$5,000,000.

\$850,000 Extension to Railroad Office Building

The Louisville & Nashville Railroad Company completed early this year an \$850,000 extension to its general office building in Louisville, Ky. The structure is 11 stories and basement, 168 by 60.5½ feet, and measures 168 feet from sidewalk to top. The original building is 200 by 60.5½ feet, of the same height and general architecture. The new structure adjoins the older building on the west end and at the juncture point there is a 36-foot roadway leading to



Building for Louisville & Nashville R. R.

freight platforms in the rear and passing under the structure at the street level. The passageway extends to the floor of the second story. Construction is of steel and concrete, the first three stories being faced with stone and the upper floors with pressed brick. Plans were prepared in the office of J. C. Haly, Louisville, the company's architect, and general contract was handled by the United Engineers & Constructors, Inc., Philadelphia.

Texas Irrigation Projects

Edinburg, Tex.—Hidalgo County Irrigation District No. 1 awarded contract to the Arizona Gunite Company, Phoenix, Ariz., to line 5,500,000 square feet of canals with concrete, at 15.5 cents per square foot. The contract also includes 8 miles of pipe lines and about 800 irrigation gates. Bids have been opened by the Hidalgo County Irrigation District No. 6, Engelman tract, near Edinburg, for additional irrigation construction to cost \$151,000. The latter district will do about 1,000,000 square feet of lining. At San Benito, bids were recently opened for 52,000 square feet of concrete lining and Cameron County Improvement District No. 15, S. Finley Ewing, president, awarded contract to Dodd & Wedegartner, San Benito, to concrete the entire system. A bond issue of \$130,000 has

been sold by the district, through the Security Trust Co., Austin, to E. C. Burt & Co., Houston and New York. A. Tamm, Harlingen, Tex., is engineer for all the projects.

New Acetylene Plant in Atlanta

Atlanta, Ga.—The Prest-O-Lite Company, Inc., New York, announces the opening of a new plant at 1240 Stewart avenue, this city, for the manufacture of dissolved acetylene. The plant is on a private siding of the Atlanta and West Point Railroad and is designed to take care of an increased demand for this product due to an enlarging use of the oxy-acetylene process. With the opening of the new plant, the old plant at 345 Kuhrt street will be discontinued.

\$11,000,000 PAPER MILL FOR SOUTH

Ohio Company Considering Details of Location

Mobile, Ala.—According to information received here, the Champion Coated Paper Company, Hamilton, Ohio, is considering the construction of an \$11,000,000 paper and pulp mill in the South and is carefully investigating Mobile and vicinity as a possible location because of its proximity to timber lands. No decision has been made, however, as to the location nor have architects or engineers been engaged. It is understood that facilities of the proposed plant will include all processes for converting the raw materials into finished products.

Growth of Texas Cities

Dallas, Texas, June 14.—The story of an amazing growth of Texas cities has been unfolded by a compilation of reports on the 1930 census covering municipalities of 10,000 population and over. Added to the growth of the enlarged cities will be the heavy gains of West Texas and far Southwest Texas counties, to which farmers from the Middle West and from older sections of this state have flocked in numbers during the past decade.

Texas now has three cities of better than 250,000 population, five of over

100,000, and 36 with more than 10,000 population.

Oil development accounted for heavy gains in several cities, but in the lower Rio Grande Valley a remarkable growth has been indicated, with oil playing no part. In this case it was irrigation of arid lands and the influx of truck and fruit growers. Seventeen towns in the Magic Valley showed 92,874 population in 1930 compared with 37,227 in 1920, a gain of 55,647, or 149.2 per cent.

Cities from 10,000 to 290,000 by the 1930 census, with comparison between 1920 and 1930 figures, are here given.

City	1930	1920	Gain	Per cent gain
1. Houston	290,811	138,276 (3)	152,535	110.3
2. Dallas	261,010	158,976 (2)	102,034	64.1
3. San Antonio	254,562	161,379 (1)	93,183	57.7
4. Fort Worth	160,892	106,492 (4)	54,400	51.2
5. El Paso	101,975	77,560 (5)	24,415	31.5
6. Beaumont	57,483	40,422 (7)	17,061	42.2
7. Austin	53,118	34,876 (10)	18,242	52.3
8. Waco	52,825	38,500 (9)	14,325	37.2
9. Galveston	51,939	44,255 (6)	7,684	17.3
10. Port Arthur	49,107	22,251 (12)	26,856	120.7
11. Wichita Falls	43,607	40,079 (8)	3,528	8.7
12. Amarillo	43,115	15,494 (15)	27,621	178.0
13. Laredo	32,661	22,710 (11)	9,951	43.8
14. Corpus Christi	27,789	10,067 (28)	17,722	176.0
15. San Angelo	25,304	10,050 (30)	15,254	151.7
16. Abilene	23,129	10,274 (29)	12,855	125.0
17. Brownsville	22,050	11,791 (22)	10,259	87.0
18. Lubbock	20,612	4,051	16,561	408.8
19. Tyler	17,089	12,085 (21)	5,004	41.3
20. Paris	16,644	15,040 (16)	1,604	10.6
21. Texarkana	16,602	11,480 (28)	5,122	44.6
22. Marshall	16,193	14,271 (18)	1,922	13.4
23. Sherman	15,640	15,031 (17)	609	4.1
24. Temple	15,333	11,033 (26)	4,300	38.9
25. Corsicana	15,299	11,356 (24)	3,943	34.7
Total for first 25 cities....	1,684,789	1,037,799	646,990	62.3
26. Denison	13,851	17,065 (13)	*3,214	*18.8
27. Big Spring	13,731	4,273	9,458	221.3
28. Brownwood	12,781	8,223	4,558	55.0
29. Greenville	12,506	12,384 (20)	122	1.0
30. Harlingen	12,124	1,784	10,340	579.5
31. Del Rio	11,676	10,589 (27)	1,087	10.2
32. Cleburne	11,466	12,820 (19)	*1,354	*10.5
33. Palestine	11,429	11,039 (25)	390	3.5
34. Sweetwater	10,844	4,307	6,537	150.0
35. San Benito	10,789	5,070	5,719	112.7
36. Pampa	10,453	987	9,466	969.2
Total for cities of 10,000 to 15,000	131,650	88,541	43,109	49.8

*Indicates decrease.

Natural Gas and Its Future in the South*

By

EDGAR G. HILL,

Vice-President and General Manager,
Southern Natural Gas Corporation,
Birmingham, Ala.

TO many of this gathering, the natural gas business is an old story. Others of you, from Memphis, New Orleans and Atlanta, have lately emerged from the throes of changing over your distribution systems from manufactured to natural gas, and are rapidly becoming acquainted with the new fuel. To most of you, however, the subject of natural gas, particularly its distribution and utilization, is an unfamiliar one, but one of more than passing interest at this time of gigantic natural gas developments the country over, in which the Southeastern states are sharing to a great extent. * * *

I will now proceed to the meat of this paper, namely, the reasons for bringing it to the Southeastern States, and what it should and will accomplish there toward the improvement of social and industrial conditions. * * *

The rapidly growing sales of natural gas, even in sections where competition of other fuels is keen, proves this statement of mine, I think, beyond question.

In the home natural gas is sold at rates for cooking and also for hot water heating, that are highly attractive. Many of you have been disturbed by the increasing inroads made by the electric power companies on your cooking load. Natural gas is your way out. There are only 3413 BTU in a kilowatt of electric energy. A thousand cubic feet of natural gas contains approximately one million BTU. Simple arithmetic shows that 293 kilowatts are therefore required to furnish the heat units which in natural gas are usually sold for not over two dollars and a quarter, including the service charge for the first thousand feet. Assuming equal efficiency in the appliance, electric current must be sold for a minimum of something less than eight mills per kilowatt hour to compete with even the first 1000 cubic feet of natural gas. With manufactured gas of 550 BTU per cubic foot, selling at the same price including the service charge, electricity at one and one-half cents per kilowatt-hour is competitive on a heat unit basis. Ridiculous statements of the increased efficiency of electric over gas-burning appliances are often made, which have undoubtedly had weight in building the electric cooking load at the expense of the Gas Company, but today the gas appliance industry offers you ranges of high efficiency, including the insulated oven and thermostatic control, which have been the main talking points of the electric

salesman. Undoubtedly some antiquated and poorly adjusted manufactured gas ranges have been replaced by electric stoves to the advantage of the householder, especially as the electric company's service charge is brought forward as applying also to current for lighting and so a necessary expense in any event, which is usually the case. The cost comparison which I have just made assumes that all cooking will be done with the first thousand cubic feet of gas, the price of which includes the usual service charge. This is not always true.

A large family will use more than this first thousand feet for cooking, securing the second and third thousands at prices usually about half that of the first thousand, in which case, the saving by the use of natural gas becomes still more obvious.

When we come to domestic water heating, we find a field of service in which natural gas stands almost alone. The modern natural gas fired automatic storage water heater is in a class by itself from every standpoint. Durable, reliable, operating at low cost, it is the modern family's most valuable servant. It has largely replaced the old-fashioned coal type heater, which gave trouble in many localities due to scale from hard water forming in the coil, and modern production methods have brought the price within reach of all. * * *

Once a consumer heats his house with natural gas, burned either in a modern, well designed conversion unit in his old furnace, or better still, in a furnace designed for gas, and is given good service by the utility at reasonable rates, he becomes that utility's greatest asset, a lifelong friend. In offering natural gas for this service, the utility must first make sure that its distribution plant, service lines and meters are adequate to handle the load. It must then push the sale of its commodity vigorously, truthfully and fearlessly, using intelligent, trained men only, and sell and install only apparatus of proven merit and high efficiency. * * *

In Dallas, Houston and Fort Worth, Texas, the use of natural gas for domestic and commercial heating is well nigh universal, with gas selling at about 65 cents per 1000 cubic feet for this purpose. These facts, I think are almost unanswerable. If natural gas is made

available for house heating at reasonable rates and properly served, the people of the United States will use it, in spite of all the efforts of dealers in competing fuels. Not only will they use it, but they will pay up to 75 cents per thousand cubic feet for it, almost regardless of coal prices. * * *

Why do people like to heat their homes with natural gas? The answer is easy. Quick heat available at the turn of a valve, or the click of a thermostat, no soot or dirt from solid or liquid fuels or from ashes, no furnace tender tramping into and out of the house at unseasonable hours, lowered laundry and cleaning bills, no storage of fuel necessary, and additional room available in the basement, which was formerly occupied by competitive fuel. * * *

Fuel oil is sometimes mentioned as a competitor for househeating. We in the natural gas business do not give it such recognition, because it offers no advantages, and is hopelessly at a disadvantage from a cost standpoint, both as to the fuel itself and the equipment required to store and burn it.

Now as to the other great field for this commodity, its uses in industry, there are two general industrial spheres where natural gas is almost invaluable, in the steel business and in the ceramic industry generally. Natural gas for special process work in steel is selling in Ohio and Pennsylvania at almost domestic prices. It is sold in great quantities at lower prices for fuel in open hearth furnaces and soaking pits. At Birmingham, the great plants of the Tennessee Coal, Iron and Railroad Company, under normal business conditions use far more natural gas than the whole city of Atlanta.

Brick and tile manufacturers eagerly await natural gas, as it is an ideal fuel for their needs, its use resulting in a better product, with less spoilage, at generally a lower cost per thousand. The lime kiln operator finds that he can produce better lime at lower cost with natural gas, even in the Birmingham district, than he was able to turn out before natural gas was available.

As a boiler fuel, natural gas, while ideal, must be sold at lower rates than it commands in other industrial fields. My company is selling it for this use, but only until such time as the domestic load builds up to a point where the further sale of boiler gas would imperil domestic service. When that point is reached, we will stop selling boiler gas except on an off-peak basis in the summer months. * * *

*Extracts from an address made June 11 before the Southern Gas Association at Savannah, Ga.

Some Major Projects of the Week

Under the Construction Department elsewhere in this issue will be found a complete list of the week's activity in the South and Southwest, including hundreds of industrial, mining, power, transportation, building construction, and financial projects. It presents a panorama of development requiring materials, equipment and machinery of almost every description.

\$2,000,000 FOR SERVICE STATIONS

Two Companies Plan Big Expenditure in Louisville

Louisville, Ky.—Plans have been made by the Shell Petroleum Company, St. Louis, to establish 100 service stations in Louisville at a cost of \$1,500,000 to \$2,000,000. Sites for a number of the stations have been selected and a permit obtained for one at Twenty-eighth street and Virginia avenue. Several are expected to be completed within four months and the entire program finished in eight months.

The National Consumers Oil Company, Inc., Terre Haute, Ind., also is leasing sites for filling stations here, which will involve an outlay of \$250,000 within a few months. The company plans to construct a compounding plant, river terminal, large warehouse, six large tanks and 15 filling stations by the fall. H. P. Grigsby, sales manager, is working out details.

\$500,000 Pigments Plant Addition

Contract has been awarded by the Commercial Pigments Corp., Curtis Bay, Baltimore, a division of the Commercial Solvents Corp., New York, to the United Engineers & Constructors, Philadelphia, Pa., to erect additional buildings, install additional equipment, enlarge the boiler room and provide other facilities at its Curtis Bay plant. These increased facilities will double the capacity of the plant and involve an expenditure of approximately \$500,000.

\$800,000 Federal Reserve Addition

Richmond, Va.—The Federal Reserve Bank of Richmond, George W. Seay, governor, opens bids June 24 to erect an \$800,000 addition to its building here, the two structures to be connected by a colonnade. Plans for the addition, which will be 120 by 70 feet, were prepared by Taylor & Fisher, Baltimore. The following contractors are estimating: Wise Granite & Construction Company, John T. Wilson Company, Doyle & Russell, J. R. Jones & Conquest, Inc., and John W. Cowper Company, Inc., all

of Richmond; J. Henry Miller, Inc., and Consolidated Engineering Company, Inc., both of Baltimore; George A. Fuller Company and the James Baird Company, both of Washington, D. C., and the J. A. Jones Construction Company, Charlotte, N. C.

\$8,500,000 POWER DEVELOPMENT FOR DALLAS

Dallas Power and Light Company Plans 120,000-Kilowatt Plant in Mountain Creek Territory

Dallas, Tex.—A report submitted by J. W. Everman, supervisor of public utilities, relative to a project of the Dallas Power and Light Company for the creation of a lake and the construction of an electric generating station in the Mountain Creek territory just west of Dallas, to cost more than \$8,500,000, has been approved by the city and the company. Plans of the company as outlined by the report call for the construction of an earthen levee or dam about 8100 feet long, with an average height of 22.6 feet, through the valley, which would create a lake of approximately 4400 acres, the dam to be provided with spillway and water control gates on the north line of the property, thereby impounding rainfalls on 300 square miles of drainage area. Water from the lake would be used to condense the steam after it has passed the turbines, so that the hot distilled water may be used again in the boilers.

The company will purchase about 6384 acres, which will provide for the lake and afford more than 200 acres for buildings and other purposes. The generating plant would be designed for an ultimate capacity of 120,000 kilowatts, to be built in four stages. The first unit would involve the construction of necessary buildings and machinery installation to a capacity of 30,000 or 35,000 kilowatts, while each succeeding unit, of similar capacity, would be constructed as the demand for power justifies. The present generating capacity of the company is 70,000 kilowatts, its main generating station being at the head of Griffin street. It is estimated that a period of more than two years will be required to secure the necessary property and build the Mountain Creek dam.

CONTRACT FOR 120-MILE RAILROAD

Atchison, Topeka and Santa Fe Building from Texas Panhandle to Oklahoma

Amarillo, Tex.—Contract for the construction of 120 miles of railroad from Amarillo to Boise City, Okla., has been awarded by the Atchison, Topeka and Santa Fe Railway System, G. W. Harris, chief engineer, Chicago, to the Sharp & Fellows Contracting Company, Los Angeles, Cal. Construction will be in charge of W. H. Rochester, assistant engineer of the railroad, with headquarters at Amarillo. The section of the line from Amarillo to mile post 34, covering 34 miles of tracklaying, will involve the following quantities: 773,000 cubic yards of common excavation; 122,000 cubic yards of loose rock excavation; 100,000 cubic yards of solid rock excavation; 1,516,000 cubic yards of embankment; 950 lineal feet of ballast deck trestles; 250 M.B.M. creosoted wood boxes; 2900 lineal feet of reinforced concrete pipe; 450 tons of steel girders; 3050 cubic yards of reinforced concrete in boxes, and 1850 cubic yards of concrete in bridge piers.

The section from mile post No. 34 to Boise City, 86 miles, will involve the following: 163,000 cubic yards of common excavation; 53,000 cubic yards of loose rock excavation; 60,000 cubic yards of solid rock excavation; 1,422,000 cubic yards of embankment; 1720 lineal feet of ballast deck trestles; 320 lineal feet of open deck trestles; 1240 lineal feet of ballast deck T-rail trestles; 1110 lineal feet of reinforced concrete pipe, and 200 M.B.M. creosoted wood boxes.

\$2,035,000 Richmond Bonds Sold

Richmond, Va.—Bonds in the amount of \$2,035,000, bearing an interest rate of 4½ per cent, have been sold by the City of Richmond, Landon B. Edwards, city comptroller, to the State Planters Bank and Trust Company, Richmond; George B. Gibbons & Co., Dewey, Bacon & Co. and the First National Old Colony Corp., all of New York, on a bid of \$2,113,754. The issue includes: Street bonds, \$500,000; sewers, \$400,000; schools, \$635,000; general improvements, \$250,000; gas works, \$150,000, and water, \$100,000.

IRON, STEEL AND METAL MARKET

Approaching the Season of Low Production in Steel

Pittsburgh, June 16—[Special.]—The decrease in steel activity can no longer be considered milder than usual, but it is not definitely greater than usual. It can properly be called seasonal in character as to the more recent decline, but early in the year there was a special twist. February was the peak month of the year in steel production, contrary to all precedents, which put March or April in that place, last year being a special exception with May as the high month.

After the stock market collapse, one might expect things to move more slowly than usual and the unprecedentedly early peak was unnatural. One might take it that there was a "secondary reaction" in general business, but the better view now is that there was too hopeful a feeling in January and February, too much "confidence," rather than the too little confidence that was so much talked about at the time.

Steel ingot production last week was at about 70 per cent of capacity, against an average of 85 per cent officially reported for February. Probabilities are that July, usually the low month of the year, will average around 65 per cent. This takes the edge off predictions of an autumn revival in steel; for, with such a low rate, an upturn would be only natural. The question is rather how much upturn there will be. Steel is always handicapped in the second half of a year, compared with the first half, by annual rail requirements being chiefly in the first half and by automobile demand being decidedly lighter.

As to the automobile industry, statistics have exploded the theory that the stock market collapse made a big hole in the public desire or ability to buy automobiles, from which there would be continued recovery during this year.

The trouble was chiefly an overstock of used and new cars and this was largely righted by the very low production of November and December. The plain fact is that, averaging the five years prior to last year, the first five months of this year have run 3.7 per cent above the five-year average, and each of the five months has run just about the same slight excess over the same month's average in the five years. Thus, it may be said that production has had no very great backset, that normal or usual seasonal variation has been followed and that there is no progressive recovery.

By far the outstanding item in steel

demand, indeed the only one, is that for line pipe, the tonnage being chiefly for natural gas, though in point of mileage there is no little for gasoline lines, which are in smaller diameters. Correct details of the Phillips Petroleum Company's gasoline line pipe order, show a total of 800 miles of 8-inch, weighing 24 pounds per foot, and making about 48,000 net tons altogether. This will all be furnished by the Republic Steel Corporation in its new electric welded, 6-inch having been made to date, while a new department to make larger sizes is almost completed.

In 10-inch and larger producers are filled for months to come, practically for the year, as there are more projects left than can be taken care of and some will have to go over to next year. While capacity has been increased and will soon be larger still, the total capacity does not involve any large proportion of the total steel making capacity. All the large diameter pipe and tube capacity of the country existing and in near prospect could only employ in the neighborhood of 5 per cent of the total steel ingot producing capacity.

Finished steel prices are reported to be somewhat steadier, but it might be more correct to say less unsteady. Some lines are probably down to bottom, but others are likely to have further declines, present openly quoted prices being available on single carloads while special orders frequently involve deep cuts. Some observers claim, however, that steel prices have not declined as much as commodity prices in general, and are due for further decline simply on that account.

Excepting for Lead, Metal Markets Are Quiet

New York, June 16—[Special.]—The non-ferrous metal markets have been quiet for the most part, still lacking strength of tone. There are a few exceptions of course. Among the major metals lead gives a good account of itself, with prices very firm and business in fair volume. Among the minor metals quicksilver holds firm at \$120 per flask, though demand is much quieter than late in May.

Sentiment in copper was more depressed than it has been. Prices of standard copper have kept declining on the London Metal Exchange, while on Wednesday electrolytic copper fell there, the first change in three weeks. Buying was extremely light and dealers were offering the metal at concessions from the regular price, though in small quan-

ties only. When May statistics came out Thursday custom smelters offered to sell at 12½c, a reduction of ½c. On Friday custom smelters reduced prices another quarter of a cent, to 12¼c.

The price of zinc came down \$1 per ton after the issuance of May statistics, which showed a gain of over 5000 tons in surplus stocks to the tremendous total of over 101,000 tons, the largest in zinc annals. Zinc ore prices have held unchanged at \$31 per ton, the lowest in years.

The steel industry still slumps, with only two large sustaining factors: Steel pipe and fabricated structural steel. The steel makers are not looking for improvement before early fall and will be satisfied if present recessions continue gradual and orderly. Makers of galvanized sheets are working not over 60 per cent of capacity, which is below the general average for the industry, so that the outlook for zinc consumption in this outlet is none too bright. Tin plate operations are 75 to 80 per cent of capacity, or about average.

The price of tin has sunk to 29¾ cents per pound, the lowest since 1922 when the bottom level was 28¾ cents. The Tin Producers Association, London, announces its intent to recommend drastic reduction of production by having all tin mines of the world shut down for two months. This is the most sensational program ever suggested in the tin industry, but may meet with much difficulty in the carrying out.

Tin has often been compared to rubber, having much in common. Both are not only produced entirely outside the United States but in the same general localities in the Far East; in both cases overproduction has been severe; in both cases curtailment of production has been organized. Thus a tapping holiday in rubber was held during May which corresponded to the 20 per cent reduction in tin output (which is outside the more recent proposal for two months' shut-down); both tin and rubber have gone to new low records on the exchanges which deal in these commodities.

Stocks of tin being piled up in warehouses of the United Kingdom and United States continue to gain, amounting to record tonnages. More tin keeps appearing from mysterious sources, this having been metal which had been hidden away quietly awaiting a favorable market. A British tin authority has stated recently that 80 per cent of the tin mines now operate without profit. Low selling prices will do more to curtail production than the best devised artificial means working towards that

end. There is one saving grace in the tin situation. Cheap prices are undoubtedly stimulating consumption. There are several substitutes for tin which are used when prices are extremely high.

Export sales of copper have been averaging 500 tons daily, which compares with 5000 tons daily when selling was the brisker of the year last month. Domestic business has been exceedingly light. Declining shares on the New York Stock Exchange, lowering prices in other commodities and general business uncertainty contributed to copper dullness.

When the May zinc statistics were first announced the price immediately dropped \$1 per ton. By Thursday a decline of \$2 set in, bringing the price to 4.50c, East St. Louis, the lowest since 1922, in which year the metal sold at 4.47½c as a minimum quotation. However the surplus stocks of zinc today are much higher than they were then, though it may be argued that consumptive capacity is greater than in 1922. Business in zinc has been virtually at a standstill.

The first day of the week was the best in the lead market. Late that day makers of pigments, lead pipe and miscellaneous metal users bought quite freely, but the metal quieted later in the week. The outlook is for good lead buying over the next few weeks.

Surplus stocks of refined copper increased 7308 tons during May to 308,646 tons, the largest in many years. Shipments were 124,875 tons, an increase of 45,662 tons; refined copper production came to 132,183 tons, a gain of 7652 tons. Total stocks above ground, blister and refined, gained 5043 tons to the total of 575,143 tons.

The greatest surprise was the increase in production, it having been believed that the lower selling prices would curtail output. Daily production averaged 4264 tons as against 4151 tons in April. Shipments were the largest since October.

Keeping Up Production in Birmingham District

Birmingham, Ala., June 16—[Special.]—Production statistics have been maintained in iron and steel as in coal, coke and other products of the district. Seasonal curtailment promises to be short and industrial leaders appear confident there will be a good showing made for the year. There has been no interference with the programs of development and expansion in mining and manufacturing lines here. Considerable labor is to be used in construction work under way. Some skilled labor will take a

brief vacation. There will be no cessation whatever in some directions though effort will be modest as to maximum output.

Pig iron sales for third quarter have not been booked in any quantity, in fact, books have not been formally announced opened. Fourteen dollars, No. 2 foundry, is base price and will be maintained.

Steady melters of pig iron while stating that operations are well around normal for the year so far say there has been little new business received lately and there will probably be some reduction of make before long. Cast iron pressure pipe production has been steady but the market is quiet now and lettings are not numerous. There has been a little disappointment in this trade. Soil pipe has been slow. Other melters of iron, stoves, radiation, etc., have been operating steadily but have purchased only against early needs.

In steel circles, attention is with the Gulf States Steel Company, completion and starting up of the new universal plate mill at Gadsden. The machinery has been turned over and regular operation will get under way at once. Progress is satisfactory on the continuous sheet mill at Gadsden and in July this mill should be completed and placed in operation. The shut down at the rail mill of the Tennessee Coal, Iron & Railroad Company at Ensley may not be for as long a period as first estimated. However, railroads are not making estimates on additional orders except in one or two instances and these will be divided up. As always the case, such improvement and betterment as is called for will be put in while the mill is off.

In the meantime, labor is being added to the construction forces working on the development, betterment and expansion at the sheet mill, plate mill and other shops in the Fairfield section of the Tennessee Company's operations here. The big appropriation made by the finance committee of the United States Steel Corporation, \$8,000,000 and more, will make an effective showing by the end of the year and before next spring. The greater sheet mill will be one of the most capable in the country while additions and expansions of the plate mill will be of much value. Other mills will feel results of the expenditures and the entire program of the Corporation will be completed within 10 to 12 months.

Plate and sheet demand is reported good. Reiteration is made that lighter weight shapes of steel are in need of orders. On the whole, the steel market is not so active. Fabricators are still soliciting business. The paper mill contract for Panama City, Fla., upwards of 2000 to 3000 tons of structural steel,

went to a St. Louis fabricator. Several specifications in sight a few weeks since have dissipated.

Coal mining is on the seasonal lag, coke is unchanged. Scrap iron and steel is dull.

Acme Casting Company has set up a foundry to do light castings, specialties for textile mills and cotton mills in particular.

Birmingham Pressed Steel Company is producing on a large scale electric irons, stoves and heaters as well as wheel goods, coasters and pedal cars for children.

PIG IRON QUOTATIONS.

No. 2 foundry, 1.75 to 2.25 per cent silicon, f. o. b. furnaces, \$14.00; No. 1 foundry, 2.25 to 2.75 per cent silicon, \$14.50; iron of 2.75 to 3.25 per cent silicon, \$15.00; iron of 3.25 to 3.75 per cent silicon, \$15.50.

OLD MATERIAL.

Old steel axles	\$14.00 to \$15.00
Old iron axles	14.00 to 15.00
Old steel rails	11.00 to 12.00
Heavy melting steel	10.50 to 12.00
No. 1 cast	10.00 to 12.00
Stove plate	10.00 to 11.00
No. 1 railroad wrought	10.00 to 11.00
Old car wheels	10.00 to 11.00
Old tramcar wheels	11.00 to 11.50
Machine shop turnings	7.00 to 8.00
Cast-iron borings	7.00 to 8.00
Cast-iron borings (chem.)	12.00 to 13.00
Re-rolling rail	13.00 to 13.50

Petroleum Asphalt Industry in 1929

Production of 4,057,227 short tons of petroleum asphalt in 1929, compared with 3,548,527 in 1928, is reported by the Department of Commerce. At lower prices in 1929, sales aggregated 4,041,060 short tons, at \$45,229,953, as against 3,572,274 tons, at \$46,268,546 in 1928.

The output of the Oklahoma-Kansas-Missouri district in 1929 was 27,793 tons, and of Texas was 216,916, of which 216,336 was from the Gulf coast and 580 from the rest of the State. The Louisiana Gulf coast produced 459,149 tons and northern Louisiana and Arkansas 45,760, or 504,819 tons for the Louisiana-Arkansas district. The Texas Gulf production was 8633 higher than in 1928, while coastal Louisiana, including New Orleans and Baton Rouge area, fell off 103,151 tons.

Sales for paving, other than flux, increased from 1,549,354 tons at \$21,271,309 in 1928, to 1,569,858 tons, but at \$19,462,460, a decrease, in 1929.

Baltimore Builders' Exchange

The following officers of the Builders' Exchange of Baltimore City have been elected for the ensuing fiscal year: A. H. Siemon, president; August V. Eldman, first vice-president; H. A. Gillespie, second vice-president; T. Russell Hicks, third vice-president; S. Frank Bennett, treasurer; Conrad Bernhard, Jr., secretary; Stewart W. Parker, assistant secretary, and Myer Rosenbush, counsel.

HIGHWAYS AND MOTOR TRANSPORT



Power Machinery Speeds Road Building

In Craighead County, Arkansas, modern practices are followed in carrying on road construction and maintenance. Here are pictured initial operations in building a new road in the vicinity of Jonesboro. A "Caterpillar 60" tractor and a Super-Mogul grader "dig-in," following the clearing of trees and underbrush from the right of way.

Most of Country's Rock Asphalt Produced in South

Eighty-eight per cent of the 748,550 tons of rock asphalt sold in the United States and valued at \$4,071,173 during 1929 was produced in two Southern states, Kentucky and Texas. Minor amounts were produced in Alabama, Oklahoma, Utah and California. While the total tonnage was a decrease of 3.8 per cent from the quantity produced in 1928, it represented an increase of .3 per cent over the \$4,060,276 value of the 1928 production. The average value realized for each ton sold rose from \$5.35 in 1928 to \$5.44 in 1929.

In Kentucky the sales of rock asphalt, which aggregated 318,548 tons in 1928, increased 6.8 per cent to 340,346 tons in 1929. The value of this output in 1928 was \$2,757,547, in 1929 it was \$2,785,772, an increase of one per cent. Prices, however, were lower, as the average sales value dropped 5.4 per cent, or from \$8.68 per short ton in 1928 to \$8.19 a ton in 1929. Active producers in Kentucky numbered three as compared with the five in 1928.

Texas had three companies quarrying limestone rock asphalt, in Uvalde and Kinney counties, during 1929. Although the total output of 320,931 short tons

represented a .2 per cent decrease from the 321,505 tons produced in 1928, value of the tonnage rose from \$815,482 in 1928 to \$946,003 in 1929. Average sales value per short ton increased 16.2 per cent, or from \$2.54 to \$2.95 in 1929.

Refinery production of petroleum asphalt, influenced by an improved domestic demand, especially for roofing asphalt, increased from 3,548,527 tons in 1928 to 4,057,227 tons in 1929. Principal gains in output were made in the East Coast district which produced 1,691,653 tons in 1928 and 1,923,378 tons in 1929; in the Indiana-Illinois district, 418,681 tons in 1928 and 688,842 tons in 1929; in the California district, 620,080 tons in 1928 and 659,226 tons in 1929; and in the Gulf Coast district of Texas, which produced 207,700 tons in 1928 and 216,336 tons in 1929. Output of the refineries of coastal Louisiana, near New Orleans and Baton Rouge, decreased from 562,300 tons in 1928 to 459,149 tons in 1929.

Stocks of petroleum asphalt held at refineries during 1929 increased from 255,161 short tons on January 1 to 271,328 tons on December 31. Chief additions to storage were the 16.2 per cent

increase in the East Coast district and the 16.7 per cent increase in the Indiana-Illinois district. Stocks in California decreased 21.2 per cent during the year, and in coastal Louisiana 9.3 per cent. Indicated domestic demand for petroleum and lake asphalt in 1929 exceeded the 1928 demand by 16.5 per cent and the 1927 demand by 3.4 per cent. Apparent consumption of petroleum and lake asphalt within the United States dropped to 3,161,153 tons in 1928 and rose to 3,682,675 tons in 1929.

Refinery sales of petroleum asphalt, exclusive of road oil, both in the United States and in foreign countries, increased 13.1 per cent, or from 3,572,274 tons in 1928 to 4,041,060 tons in 1929, valued at respectively \$46,268,546 and \$45,229,953. Although paving asphalt constituted 43.4 per cent of the total tonnage, exclusive of road oils, sold at refineries in 1928, and 38.8 per cent of the amount sold in 1929, roofing asphalt continued to gain in relative importance at the expense of the paving grade and formed 26.5 per cent of the asphalt sold in 1928 and 28.7 per cent of that sold in 1929. An increase from 1,549,354 short tons in 1928 to 1,569,858 tons in 1929 occurred in the sales of solid and semi-solid asphalt for paving, even though activity in road building and street paving in 1929, so far as available statistics would indicate, was less than in 1928. Refinery sales of roofing asphalt in 1928 were 945,573 tons, increasing in 1929 to 1,161,621, or 22.9 per cent.

Increased Use of Concrete Paving

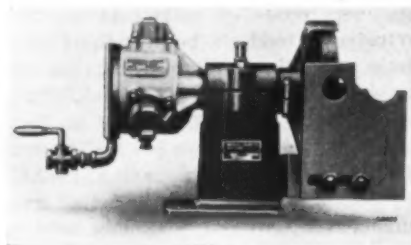
Building of paved roads is proceeding faster than ever before, according to Wm. M. Kinney, general manager of the Portland Cement Association, Chicago. Although few streets and alleys are being paved as yet, the contracts awarded for concrete rural roads have been great enough to bring the total awards for all concrete pavement to more than 64,666,000 square yards for the first five months of the year, a gain of one-eighth over the same period in 1929.

The year of 1930 is likely to set a new world's record in hard surfacing road building. In 1928, when a high record was established, awards for concrete paving during the first five months totaled 64,289,500 square yards, or the equivalent of 6088 miles of 18-foot pavement. Awards so far this year are the equivalent of 6123 miles.

NEW AND IMPROVED EQUIPMENT

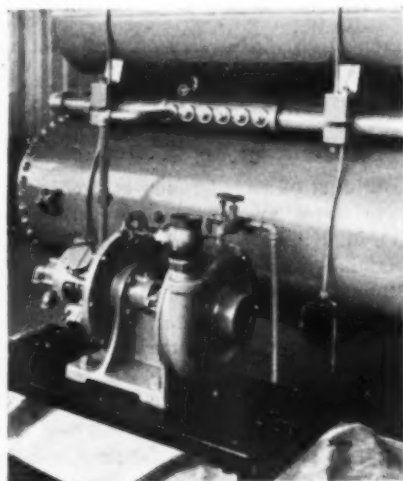
Three Ingersoll-Rand Products

Three products recently developed and introduced by the Ingersoll-Rand Company, New York, include a new-sized Utility portable air hoist of 2000 pounds capacity; a bench type pedestal grinder, known as type 9, which may be bolted to a bench or portable air compressor, and an air-motor-driven pump, known as the ACV. Utility hoists up to 1500 pounds capacity have been used by min-



Bench-Type Pedestal Grinder

ers and contractors for the past three years and the addition of the new type will make the hoist available for heavier classes of work. The unit employs a radial, four-cylinder, counter balanced, reciprocating-piston-type air motor, which is reversible, the cylinders being interchangeable and all wearing parts renewable. Reduction gears between the motor and drum are of the machine-generated spur type and heat-treated where necessary, operating in a housing



Cameron Volute Type Pump

which excludes dust and in a bath of semi-fluid grease.

The pedestal grinder receives a flow of air controlled by a hand-operated globe valve, the machine having a free speed of 3000 r.p.m. and designed to take a vitrified grinding wheel 6-inch and 8-inch diameters with $\frac{1}{2}$ -inch face.

A bit chuck takes a drill or reamer with $\frac{1}{2}$ -inch straight shank. The motor has three cylinders, is of rugged design



"Utility" Air Hoist

and operates in a lubricant bath. Standard equipment includes one 8-inch x 1-inch No. 24 grade Q vitrified wheel for iron and steel grinding and one bit chuck for half-inch straight shank or reamers.

The new ACV pump is a Cameron single-stage, single suction, open-impeller, volute type and is driven by a four-cylinder air motor. It may be mounted on a shelf at the rear of a portable air

compressor, with ample space on the shelf for a tool box. The unit is positive in action and is adapted to dewatering trenches and excavations.

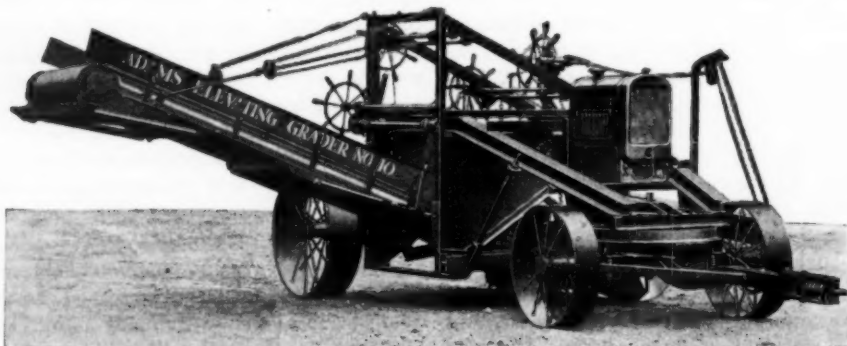
Hydraulic Hoist

An improved slant type hydraulic hoist for dump trucks has been announced by the Wood Hydraulic Hoist and Body Company, Detroit, Mich. Of all-steel unit construction, this hoist is "outstandingly rugged"; it has improved nickel steel drop forgings, which provide stamina at vital points, and it offers new power to lift heavy loads and speed for fast dumping. The hoist is made in seven models or capacities and may be used on truck models from one ton upwards. Southern factory branches of the Wood organization are maintained at Baltimore, St. Louis, and at Washington, D. C., while Southern sales and service branches are located at Birmingham, Ala.; Charleston, W. Va.; Charlotte, N. C.; Fort Worth, Tex.; Jacksonville, Fla.; Kansas City, Mo.; Knoxville, Tenn.; Louisville, Ky.; Richmond, Va., and Tulsa, Okla.

Elevating Grader

The J. D. Adams Company, Indianapolis, Ind., manufacturers of Adams leaning wheel graders and other road building and maintenance equipment, announce an elevating grader with several new features, including the use of anti-friction bearings throughout, Timken roller bearings in wheels and Timken and ball bearings in carrier and carrier drive, new shaft and gear driven carrier, new carrier construction to provide unusual rigidity with light weight, new automatic pan cleaner, belt tightener, etc. An outstanding feature is a new

type carrier driven by shaft and enclosed gears, operated either by power take-off from the tractor or by an auxiliary motor mounted in the forward section of the machine. The upper drum and lower roller of the carrier are mounted on ball bearings and all carrier rollers are on Timken bearings. Anti-friction bearings are used at every point of power consumption. The machine is furnished with power take-off or auxiliary motor and uses a 42-inch belt and 28-inch disc plow. A special catalog illustrating and describing the grader may be obtained from the Memphis, Dallas or Atlanta branches of the company.



Adams Grader, with Anti-friction Bearings

CONSTRUCTION DEPARTMENT

and

NEW ENTERPRISES

Covering the initial announcements of new undertakings with additional information about enterprises previously mentioned. The date at the end of an item indicates preliminary facts were given in a previous issue.

When writing to a new firm or corporation the name of at least one of the incorporators should be placed on the envelope to expedite its handling by the local postoffice. Mail may be delayed unless complete address is given.

Building and Construction Proposed and Contracts Awarded; Manufacturing, Mining, Power, and Land Developments; Public Works; Transportation; Communication; Financial Enterprises; New Business Opportunities Reported in the Sixteen Southern States.

The Daily Construction Bulletin of the Manufacturers Record gives each business day advance news published in this weekly review. It is invaluable to those requiring prompt information. Subscription price \$40.00 a year.

Airports, Airplane Plants, Etc.

Fla., Pensacola—Pensacola Metal Aircraft Corp., P. L. Pierce, American Natl. Bank Bldg., plans establishing airplane plant.

Fla., Tampa—Capt. A. B. McMullen, Pres., McMullen Aviation Co., Tampa Blvd., made proposal to Bd. of Aldermen for lease of Drew Field.

La., Baton Rouge—Police Jury of East Baton Rouge Parish has low bid from A. C. Stewart, 810 E. Boulevard, at \$64,825, for administration building and hangar; L. W. Eaton, 1601 N. Boulevard, at \$45,400 on administration building; Clifford H. King, Prescott Lane, at \$19,000 on hangar; all bids taken under advisement; Jones, Roessle, Olschner & Weiner, Archt., Malson Blanche Bldg., New Orleans, and Raymond Bldg., Baton Rouge. 5-29

La., Shreveport—City Comsn. opens bids June 24 for buildings, etc., at airport; following estimating on general contract: Welch & McLain; J. M. Brown, and Gilman McConnell, both Ricou-Brewster Bldg.; Ashton Glassell Co., Ricou Ave.; K. C. Wilson, Slattery Bldg.; W. Murray Werner, 602 Ononta St.; J. H. Hinerman, Ricou-Brewster Bldg.; Central Contracting Co., and Ward Beloitte, Ricou-Brewster Bldg., all Shreveport; James T. Taylor, First Natl. Bank Bldg.; Quisile & Andrews, 2212 W. Seventh St., both Fort Worth; Jones, Roessle, Olschner & Weiner, Archt., Ardis Bldg., Supt. of Constr.; Airports Engineering & Constructing Corp., Div. of Southern Air Transport, Inc., Fort Worth Natl. Bank Bldg., Fort Worth, Tex., Designing Archt. 6-12

Md., Baltimore—Bd. of Directors of Berliner-Joyce Aircraft Corp., W. W. Moss, Pres., Dundalk, approved offer of North American Aviation, Inc., C. M. Keys, Pres., New York, to acquire Berliner-Joyce Aircraft Corp.; plans call for formation of new corporation and exchange of Berliner-Joyce Class A stock for share of Class A stock of new corporation; meeting of stockholders called for June 23; plans expanding local manufacturing facilities, plans not yet worked out.

Md., Baltimore—See Miscellaneous Enterprises.

S. C., Greenville—City, Milton G. Smith, Chrmn., Airport Comsn., let contract to Huntington & Guerry for installing lighting equipment at municipal airport. 6-5

Tenn., Knoxville—Tom O. Kesterson, Lowes Ferry Pk., heading group of Knoxville interests, leased Dickinson's Island, 200 acres, and will apply at once for charter of incorporation to develop and operate first class flying field; bridge to be constructed from mainland to island.

Tex., Breckenridge—City voted to maintain municipal airport.

Tex., Fort Worth—Gulf Coast Airways, Roosevelt Hotel, New Orleans, La., established headquarters here and will establish airport; erect hangars, etc.

Va., South Washington—Capitol Air-Craft Sales, Inc., capital \$50,000, chartered; William L. Livingston; buy, build, repair and operate airplanes.

Bridges, Culverts and Viaducts

Proposed Construction

Florida—State Road Dept. received low bids for 12 bridges. See Roads, Streets, Paving. 6-5

Louisiana—Louisiana Highway Comsn., Baton Rouge, receives bids July 1 for 250-ft. Saline Bayou Bridge on Luella-Kadesh Highway, in Natchitoches and Winn Parishes, Route No. 1; five 50-ft. rein. conc. deck girder spans on conc. piles; Harry B. Henderlite, State Highway Engr.

La., New Roads—Louisiana Highway Comsn., Baton Rouge, receives bids July 1 for drainage structures on Lottie-Livonia Highway; Pointe Coupee Parish, Route 7; 12 rein. conc. box culverts; 4 rein. conc. pipes; H. B. Henderlite, State Highway Engr.

Maryland—State Roads Comsn., Baltimore, receives bids July 1 for 3 bridges: Harford County—substructure for proposed bridge on road from Harmony Church to Darlington, over Deer Creek, Cont. H-86-42; struct. steel superstructure for proposed bridge on Harmony Creek to Darlington road, over Deer Creek, Cont. H-94-42; Queen Anne's County—timber bridge, exclusive of draw span, on road from Love Point to Queenstown, over Kent Island Narrows, Cont. Q-43-28; G. Clinton Uhl, Chmn.

Maryland—See Roads, Streets, Paving.

Md., Cambridge—State Roads Comsn., Baltimore, receives bids July 8 for rein. conc. pile girder bridge, exclusive of draw span, about 1013 ft. long, over Nanticoke River at Vienna, to point opposite in Wicomico County; G. Clinton Uhl, Chmn.

Md., Kensington—State Roads Comsn., Baltimore, receives bids July 2 for triple span. (about 100 ft. between abutments), steel and conc. bridge over tracks of B. & O. R. R. Co., at Kensington along line of Lincoln Ave., including retaining wall; G. Clinton Uhl, Chmn.

Miss., Holly Springs—Marshall County Bd. of Supvrs., J. T. Wade, Clk., receives bids July 8 for 5 bridges, road and 3 levees: 100-ft. pile bridge across Pigeon Roost Creek, Dist. No. 4, or levee; 180-ft. ground hog bridge across Lick Creek, Dist. No. 3; 40-ft. span bridge south of Red Banks, Dist. No. 1; 30-ft. pile bridge in levee list, Dist. No. 5; 90-ft. pile bridge in same dist.; gravel 2 mi. road in Dist. No. 5; levee in Holly Springs and mouth of Tippah road, Dist. No. 5; levee in Spring Creek bottom, Dist. No. 5, 7,814 cu. yd.

Miss., Rolling Fork—Sharkey County Bd. of Supvrs., W. H. Carroll, Clk., receives bids July 7 for 4 bridges: Bridge over drainage ditch south of Delta City, Fifth Road Dist.; repair Vickland Bridge over Deer Creek, Fifth Dist.; build bridge over Little Deer Creek, connecting U. S. Highway No. 61 and State Highway No. 1, Third Road Dist.; build pile bridge over canal northeast of Bommer Ferry.

Miss., Woodville—Wilkinson County Bd. of Supvrs., C. A. Coon, Clk., receives bids July 9 for 8 bridges on 2 highways in Second Supvrs. Special Road Dist.; lately noted bids June 4. 5-29

North Carolina—State Highway Comsn., Raleigh, plans raising and lengthening highway bridge across Yadkin River, State Route No. 62, at Stokes Ferry, incidental to construction of another big dam on Yadkin River near Tuckertown, by Aluminum Co. of America; cost over \$75,000; John D. Waldrop, State Highway Engr.

N. C., Charlotte—City plans overpass and underpass. See Roads, Streets, Paving.

Oklahoma—State Highway Comsn. received low bids for several bridges. See Roads, Streets, Paving.

South Carolina—State Highway Comsn., Columbia, receives bids June 24 for 13 bridges: Horry County—2 treated timber, struct. steel and rein. conc. bridges in Lumber River Swamp near Nichols, Route 17, 32,056 lb. rein. steel, 54,960 lb. struct. steel; Lee County—addition of six 22-ft. spans to present bridge on 'Scape 'Ore Swamp, Route 30, between Bishopville and Sumter County line, 32,105 lb. rein. steel; Spartanburg County—rein. conc. bridge over North Tyger River, Route 10, Moore to Spartanburg, 138,400 lb. rein. steel; Clarendon County—3 rein. conc. bridges and one treated timber bridge, Route 26, Manning toward Kingstree, 116,773 lb. rein. steel.

In Abbeville County—rein. conc. bridge over Little River, Route 18, between Abbeville and Antreville; Barnwell-Orangeburg Counties—rein. conc. timber and steel bridge over Edisto River, Route 39, between Williston and Springfield; Chesterfield County—rein. conc. bridge over Thompson's Creek, Route No. 1, near Cheraw; Edgefield County—addition of two 22-ft. spans to present bridge over Turkey Creek, Route 25, between Edgefield and Greenwood; Greenwood-Laurins Counties—rein. conc. bridge over Saluda River, Route 25, near Ware Shoals; Aiken County—addition of four 22-ft. spans to present bridge over Edisto River, Route 1; rein. conc. bridge over Horse Creek, Route 1, between Aiken and Augusta; Charles H. Moorefield, Ch. Highway Engr.

S. C., Winnsboro—Fairfield County, M. C. Boulware, Supvr., received low bid from W. B. Boyle Co., Sumter, S. C., for treated timber bridge over Little River near Winnsboro.

Tenn., Knoxville—See Airports, Airplane Plants, etc.

Tex., Bryan—State Highway Comsn., Austin, will install 162-ft. steel span for approach to Pitts Bridge across Brazos River; replace 92-ft. wooden span recently destroyed; G. C. Wickline, State Bridge Engr.; J. E. Blair, Div. Highway Engr.

Tex., Fort Hancock—House of Representatives approved bill authorizing, among other items, construction of toll bridge across Rio Grande River by Fort Hancock Bridge Co.

Tex., Houston—Harris County, Norman Atkinson, County Judge, receives bids June 30 for bridge over Goose Creek, on Baytown-Pelly-Goose Creek Highway, cost about \$55,000; Charles R. Halle, County Engr.

Tex., Houston—War Dept., Washington, approved plans, City of Houston, W. E. Montelth, Mayor, for bridge across Buffalo Bayou at McKee St., under State law; replace present structure. 5-22

Tex., Houston—War Dept., Washington, approved plans, Kansas City, Mexico & Orient Ry., G. W. Harris, Ch. Engr. of System, Chicago, for bridge across Rio Grande River at Presidio.

Virginia—See Roads, Streets, Paving.

Virginia—State Highway Comsn., received low bids for 2 bridges. See Roads, Streets, Paving.

Contracts Awarded

Ky., Louisville—Virginia Bridge & Iron Co., Roanoke, Va., has contract for 200 tons fabricated struct. steel for 2 bridges for Louisville & Nashville R. R.

Mississippi—State Highway Comsn. let contracts for 3 bridges. See Roads, Streets, Paving.

Tennessee—Dept. of Highways and Public Works, let contracts for 6 bridges. See Roads, Streets, Paving.

Tenn., Memphis—Shelby County let contract to Volz Construction Co., Baltimore Bldg., at \$10,700, for steel bridge with conc. foundation over Big Creek Drainage Canal, north of Woodstock, on Woodstock-Cuba road.

Tenn., Chattanooga—Hamilton County Highway Comsn., T. S. Wilcox, Chmn., let contract to Cole & Moore Co., Paducah, Ky., at \$53,566 for conc. bridge over Chattanooga Creek on Market St. extension; E. G. Murrill, County Engr. 6-5

Tex., Port Lavaca—J. DePuy, Austin, contractor for 3.12 mi. conc. and timber causeway across Lavaca Bay, on Highway No. 57, Calhoun County, sublet contract to Parish & Brackett, Beaumont, for pile driving; E. M. Tanner, County Judge. 5-1

W. Va., Deepwater—Virginian Ry. Co., C. H. Dix, Pres., A. M. Traugott, Ch. Engr., Norfolk, let contract to Boxley Bros. Co., Inc., Orange, Va., for substructure and grading approaches for bridge across Kanawha River at Deepwater; plans letting bids for steel work in July; total cost about \$1,000,000. 5-15

Canning and Packing Plants

Fla., Dundee—Dundee Citrus Growers Assn., R. W. Smith, Mgr., having plans prepared by Tilden & McMichael, 1 Central Arcade, Winter Haven, for 1 story, 88x40 ft., packing plant; cost \$40,000.

Fla., Florence Villa—Florence Villa Citrus Growers Assn., Robt. Sands, Mgr., 413 Ave. T, Winter Haven, reported, having plans prepared by Tilden & McMichael, 1 Central Arcade, Winter Haven, for 210x68 ft., packing plant; cost \$80,000.

Fla., Lake Wales—Tower City Packing Co., J. W. Keen, Pres., reported, erect \$40,000 packing plant; capacity 5 cars daily; building will be built by Gifford & Simmons, Frostproof.

Fla., Winter Haven—Fruit Products Co. of Florida, M. M. Slayton, Mgr., Orlando, Rd., Lake Alfred, having plans prepared by Tilden & McMichael, 1 Central Arcade, Winter Haven, for 1 story and mezzanine canning plant; 310x95 ft.; cost \$45,000.

Clayworking Plants

Okla., Tulsa—Perfection Clay Co. incorporated; Thomas E. Robinson, World Bldg.

Concrete and Cement Plants

Okla., Tulsa—Missouri Portland Cement Co., H. L. Block, Pres., Telephone Bldg., St. Louis, Mo., reported, erect \$2,500,000 plant to produce 3000 bbl. daily, using wet process; secured option on site; kilns 340 ft. long; construction to require 9 months; H. L. Block wires: "Making careful survey near Tulsa; when completed same will be submitted to Board of Directors; until they pass on proposition no information can be given."

Cotton Compresses and Gins

Mo., Kennett—J. A. Hemphill will erect cotton gin; has purchased equipment.

Okla., Woodward—Choctaw Cotton Oil Co., Ada, erect cotton gin.

Cottonseed-Oil Mills

Miss., Indianola—Sunflower Cotton Oil Co., H. M. Trice, Mgr., rebuilt cotton seed products plants, daily output 100 tons; install machinery; E. M. Murray, Constr. Engr. See Want Section—Machinery and Supplies. 6-12

Drainage, Dredging and Irrigation

Ala., Birmingham—City, A. J. Hawkins, Engr., let contract to M. B. Greenough, 736 Bush Blvd., Ensley, for drainage to Village Creek, Ensley. 6-1

La., Bossier City—Bd. of Comms. of Gravity Drainage Dist., Parish of Bossier, City Hall, E. B. Herndon, Jr., Asst. Secy., First Nat'l Bank Bldg., Shreveport, opens bids June

23 for constructing all remaining ditches in Gravity Sub-Drainage Dist. No. 1 of Gravity Drainage Dist., involving approx. \$28,000; bids to be asked on unit basis for various items.

Louisiana—U. S. Engr. Office, First New Orleans Dist., Poland and Dauphine St., New Orleans, has low bid from Orleans Dredging Co., Canal Bank Bldg., New Orleans, at 7.80 cents per cu. yd., for dredging Louisiana and Texas Intracoastal Waterway, Atchafalaya-Vermilion section, Bayou Gregorie to Vermilion River, comprising 8,819,000 cu. yd.; bid recommended for acceptance. 6-5

Missouri—U. S. Engr. Office, McCall Bldg., Memphis, Tenn., opens bids July 10 for constructing intercepting drainage system involving 1,500,000 cu. yd. excavation and appurtenant structures, Birds Point-New Madrid Floodway, Mississippi and New Madrid Counties.

N. C., Lumberton—Robeson County Drainage Dist. No. 4 let contract to Sigmon-Reinhardt Co., Lincoln, for 10.7 mi. drainage canals, approx. 113,943 cu. yd. excavation, 70 acres clearing and grubbing and constructing farm roads; Will D. Alexander, Engr., 8 Croydon Rd., Charlotte. 5-15

Tex., Edinburg—Hidalgo County Water Control & Improvement Dist. No. 1 started work on \$1,250,000 irrigation system, including 5,500,000 sq. ft. Gunite canal lining, 8 mi. pipe lines and about 800 irrigation gates; Arizona Gunite Co., Phoenix, Ariz., has contract at 15.5 cents per sq. ft.; A. Tamm, Engr., Harlingen. (See Donna, 1-2.)

Tex., Edinburg—Hidalgo County Irrigation Dist. No. 6, A. L. Cramer, Pres., reported, retained bids of W. R. Briggs, Pharr, and Arizona Gunite Co., Phoenix, Ariz., for irrigation improvements, including approx. 1,000,000 sq. ft. canal lining, also earthwork. 5-8

Tex., Harlingen—Cameron County Improvement Dist. No. 15, Ann Orr Houghton, Secy., Brownsville, reported, let contract to Dodd & Wedegartner, San Benito, for concreting entire district with underground irrigation system; 90-acre reservoir completed and will insure water for development under way by McLeod-Hood Co.; A. Tamm, Engr., Harlingen. 10-31

Tex., Mercedes—American Rio Grande Land & Irrigation Co., completed survey of 10,000-acre North Capisallo tract; probably to be opened in fall and developed; plans call for installing modern irrigation equipment.

Tex., San Benito—Cameron County Water Improvement Dist. No. 10, J. L. McClurkin, Mgr., has bids in and will soon let contract for concreting main canal by means of gunite process, including 520,000 sq. ft. lining; district includes 7041 acres east of San Benito.

Electric Light and Power

Electric light and power work in connection with many LAND DEVELOPMENT operations involves the expenditure of large sums of money. See that classification for details.

Ark., Rector—Town plans erecting light and power plant, on S. Main St.; bond issue of \$40,000 has been provided; Fairbanks, Morse & Co., Chicago, Ill., has contract for engine.

Ga., Cordele—Crisp County Power Comn., reported, let contract to Ingalls Iron Works Co., Birmingham, Ala., for 100 tons struc. shapes for power house.

Ga., Elberton—City, reported, having surveys and plans made by H. S. Jaudon Engineering Co., Elberton and Leesburg, Fla., for hydro electric plant.

Mo., Bagnell—Westinghouse Electric & for hydro-electric development on Osage contract for \$1,000,000 electrical equipment Mfg. Co., East Pittsburgh, Pa., reported, has River of Union Electric Light & Power Co., 12th and Locust Sts., St. Louis; equipment includes six 23,888 kv-a. umbrella type water wheel generators, two 3000 kv-a. vertical water wheel generators and seven 150 kw. motor generator exciter sets.

Mo., West Plains—Insull, Son & Co., Inc., 20 W. Wicker Drive, Chicago, Ill., advises are not interested in any plan for hydro-electric plant on North Fork River west of here. 6-5

Tenn., Jackson—City, Lawrence Taylor, Mayor, reported, let following contracts for light plant improvements: coal and ash handling equipment, Palmer Bee Co., Westminster & Grand Trunk Western R. R., Detroit, Mich.; stokers, Illinois Stoker Co., Alton, Ill.; boilers, Babcock & Wilcox Co., 85 Liberty St., New York; boiler settings, Brooks Fisher Co., 686 Greenwood Ave., N. E., At-

lanta, Ga.; turbines, Allis-Chambers Mfg. Co., Park Bldg., Pittsburgh, Pa.; condensers, The Elliott Co., Frick Bldg., Pittsburgh, Pa.; switchboard, General Electric Co., Schenectady, N. Y.; outside coal handling, Street Bros. Machine Works, Times Bldg., Chattanooga, Tenn.; will receive bids July 9 on building and distribution system; cost \$475,000. 5-15

Tex., Anahuac—Gulf States Utilities Co., Beaumont, extend high line from Hankamer to Anahuac.

Tex., Dallas—City approved building of electric generating station, including creation of lake in Mountain Creek territory by Dallas Power & Light Co.; proposed buildings to be erected in 4 units with total capacity 120,000 kw.; location be near highway running from Oak Cliff to Grand Prairie; plan installing a 35,000 kw. unit in main building as initial capacity later to be increased to 200,000 kw.; proposed lake adjoining Hensley Field will submerge area of 4250 acres, including shore lines and property for location of buildings will make total land area of 4450 acres; lake 1½ miles wide and 4¼ miles long also will be created by building earthen levee or dam about 8100 ft. long, with average height 22½ ft. through the valley, provided with spillway and water control gates on north line of property; will commence work immediately; cost of project \$8,587,541. 6-5

Tex., Spearman—City accepted proposition of Texas-Louisiana Power Co., Electric Bldg., Fort Worth, for white way for main streets and other street lighting; Montgomery & Ward, Consult. Engrs., Dallas.

West Virginia—Public Service Comsn. of West Virginia, Charleston, granted license for project to West Virginia Power & Transmission Co., subsidiary of West Penn Electric Co., both 14 Wood St., Pittsburgh, Pa., to include dams, generating stations and appurtenant works and structures on Blackwater River and Cheat River; construction of initial stage of project, Blackwater Storage Development and Blackwater Power Development, No. 1, to begin within 1 yr.; will establish and maintain directly from its generating stations transmission and distribution lines within State of West Virginia; Sanderson & Porter, 52 Williams St., New York, engineers in connection with beginnings of project. 1-2

W. Va., Boncar—Electro Metallurgical Development Co. of America, subsidiary of Union Carbide & Carbon Co., Carbide & Carbon Bldg., New York, reported, let contract to Ford, Bacon & Davis, Inc., 39 Broadway, for steam power plant. 5-22

Fertilizer Plants

Tex., Houston—Davison Chemical Co., Baltimore Trust Bldg., Baltimore, Md., reported, receiving bids on wharf in connection with proposed fertilizer plant south side of channel below Pasadena; plans for main building of chemical plant completed; Engineering Service Corp., Post-Dispatch Bldg., Houston, supervising work. 2-27

Flour, Feed and Meal Mills

Ark., Little Rock—Globe Mills, Inc., subsidiary of Globe Grain & Milling Co., Los Angeles, Calif., leased building; will install machinery for mixing self rising flour and mill feeds.

Mo., Kansas City—See Miscellaneous Construction.

Va., Staunton—Swope Milling Co., Inc., capital \$50,000, incorporated; Mason M. Spraul.

Foundry and Machine Plants

Ala., Anniston—General Foundry Operating Co., 818 Atlanta Ave., plans rebuilding portion of plant recently burned with \$35,000 loss.

Ky., Louisville—Tube-Turns, Inc., subsidiary of Girdler Corp., Walter H. Girdler, Pres., manufacturer of pipe bending machinery, erect additions to plant and install equipment costing \$30,000, to increase production by 60%; to be completed about July 1.

Mo., Kansas City—Welded Products Corp., Alfred G. Saeger, Pres., 17th and Cleveland Ave., acquired site, Topping to White Ave. south of Independence Ave., on which to develop big plant; A. G. Saeger advises, purchased property and completing survey, to best of knowledge John Thompson Construction Co., 114 W. 10th St., will be Engr. and Fred Michaelis, Archt., 114 W. 10th St.

Garages and Filling Stations

Ark., Fort Smith—Mrs. Edith Ward Stegall abandoned plans for filling station, Rogers Ave. 6-5

Ark., Little Rock—Bale Chevrolet Co., 411 W. Capitol St., having plans completed for building, Second and Broadway; 2 story, 200x150 ft., brick, rein. conc., comp. built-up roof, misc. steel and iron, conc. and wood floors; Wittenberg & Delonay, Archt., Home Insurance Bldg.

Ark., Mena—H. C. Anderson plans filling station; Trans-Continental Oil Co., Lessee.

Fla., Miami Beach—N. F. Dallett has permit for \$15,000 garage, 324 23rd St.; Russell T. Pancoast, Archt., 1130 Lincoln Rd.

Ga., Atlanta—Mrs. W. T. Gibson, 1011 Oakdale Rd., erect filling station, 647-53 W. Peachtree St., N. W.; brick, metal; day labor.

Ky., Hazard—Grose Motor Co., capital \$10,000, incorporated; N. E. Greer, Colburn Grose.

Ky., Louisville—National Consumers Oil Co., Inc., Terre Haute, Ind., plans 15 filling stations, compounding plant, river terminal, warehouse and 6 storage tanks, involving approx. \$250,000.

La., Columbia—J. H. McQuerry let contract to R. E. Wright for remodeling 2-story brick building, Pearl St., for Chevrolet showroom and hotel; started construction.

La., New Orleans—Borden-Aicklen Auto & Supply Co., Inc., 613 Baronne St., has plans complete for \$40,000 building; 2-story, brick; W. W. Van Meter, Archt., 606 Commercial Pl.

Mo., Kansas City—Continental Oil Co., 1737 McGee St., leased site, 1418 Baltimore Ave., for filling station.

Mo., St. Louis—Willcockson Buick Co., capital \$75,000, incorporated; Wm. H. Willcockson, 210 Jefferson Rd.

N. C., Charlotte—Charlotte-Hudson-Essex Co., capital \$50,000, incorporated; A. C. Wood, 308 Briarwood Rd.

N. C., Greensboro—O. Henry Motor Co., capital \$40,000, incorporated; H. E. Ruffy, Salisbury.

Okla., Oklahoma City—Wood-Reid-Fullerton Tire Co., capital \$100,000, incorporated; Hoyt Wood, 111 W. 34th St.

Okla., Oklahoma City—R. J. Walker, Inc., 2200 N. Indiana St., started erecting \$20,000 garage; 1 story, brick, conc. tile, irregular shape; Spivey & Davis, Gen. Contr.

S. C., Greenville—John B. Marshall Estate, Marshall Apts., has permit to erect filling station, W. Washington St. and Butler Ave.; Texas Co., 135 E. 42nd St., New York, Lessee.

Tenn., Knoxville—Knoxville Rubber Tire Co., 327 E. Jackson Ave., incorporated; E. C. Phillips, Mrs. Nellie Love.

Tenn., Memphis—Madison Heights Improvement Co., A. B. Lanning, Jr., Gilmore Apt., erect \$15,000 garage, 1837 Madison Ave., with own forces; 1 story, 154x131 ft., brick, conc., steel, comp., built-up roof, conc. floors; W. C. Lester, Archt., Derman Bldg.

Tenn., Memphis—Goodman Bros., 82 Madison Ave., plan filling station, Madison Ave. and Diana St.; 1 story, brick, comp. roof, conc. drives and floors.

Tenn., Memphis—Texas Oil Co., care Estes W. Mann, Archt., Cotton Exch. Bldg., let contract to Fred Sexton Co., 190 Court Ave., for \$10,000 filling station, 2622 Poplar Ave.; 1 story, 22x22 ft., comp. built-up roof, conc. floors.

Texas—Texas Pacific Coal & Oil Co., Ft. Worth National Bldg., Fort Worth, acquired majority of bulk and filling stations of Central Texas Refining Co., reported, involving \$300,000; all properties of company except those in vicinity of Corsicana, Valley Mills, Dallas, Cleburne and Brownwood were transferred.

Tex., Dallas—J. F. Reeves Co., Inc., capital \$50,000, chartered; Charles A. Vilbig, 5601 Richard St.; Matt Larkin; automobiles.

Tex., Port Arthur—Firestone Tire Stores, Inc., subsidiary of Firestone Tire & Rubber Co., Akron, Ohio, has plans complete and will let contract in few days for \$30,000 to \$50,000 service station, Procter St. and Augusta Ave.; 125x125 ft., conc. hollow tile, stone trim; Charles S. Chase, Archt., Post-Dispatch Bldg., Houston.

Tex., Houston—Humble Oil & Refining Co., Humble Bldg., has permit for \$10,000 filling station, 69th and Clinton St.

Tex., Houston—M. D. Smith, 2212 Genesee St., let contract to Louis B. Geiger, 2715 Palm Ave., for \$15,000 service station; rein. conc., hollow tile, stucco, 50x103 ft.; include wash racks, paint shop and greasing pits for high pressure lubrication; J. W. Northrop, Jr., Archt., Kirby Bldg.

Tex., Pharr—Humble Oil & Refining Co., Humble Bldg., Houston, completing plans for converting Junction Station into super filling station.

Tex., San Antonio—Emig Service Stores, Inc., capital \$25,000, chartered; A. W. Emig, 230 W. Whittier St.; garage and auto sales.

Tex., Yorktown—J. M. Riedel let contract to H. R. Gohlke, Yorktown, for drive-in filling station, juncture of Highways 72 and 118, E. Main St.; brick, stucco.

Va., Norfolk—Martin Motors, Inc., chartered; James William Bryan, National Press Bldg., Washington, D. C.

Va., Richmond—Robertson Chevrolet Co., Inc., capital \$30,000, chartered; C. B. Robertson, 2220 Parkwood Ave.

W. Va., Beckley—J. W. Word Motor Co., capital \$25,000, incorporated; J. M. Word, S. G. Nuckols.

Gas and Oil Enterprises

Alabama—Alabama Natural Gas Corp., affiliated company of Southern Natural Gas Corp., Birmingham, granted franchise to install gas lines throughout city; also applied for gas franchise Anadaluza.

Alabama—Southern Natural Gas Corp., Birmingham, let contract involving expenditure of several million of dollars for construction of additions to transmission lines; contracts include Mobile Division, total mileage of approximately 215, reaching from Yazoo City through Jackson and Hattiesburg, Miss., to Mobile; laterals from this project will include Laurel and lines to Gulfport, Biloxi, and Pascagoula; Montgomery Division, approximately 104 miles, will be constructed from Tuscaloosa Southeast and east to point near Columbus, Ga., with lateral lines which will carry natural gas to Selma and Montgomery for distribution through local companies; laterals will be built to Tuskegee in Macon County; Auburn and Opelika in Lee County; contracts also include Macon Division, approximately 185 miles long, which will be built from point near Atlanta, Ga., to Griffin, thence to Macon and east into Wilkinson County; lateral lines from this division are expected to be built to Thomaston, in Upson County and Milledgeville in Baldwin County; will probably construct lateral lines on these divisions during the summer; smaller towns and cities will be served in Mississippi by Mississippi Natural Gas Corp. in Alabama by Alabama Natural Gas Corp., all of which companies are affiliated with Southern Natural Gas Corp.; Mobile division will be executed by Natural Gas & Engineering Corp., excepting clearing of line, contract for which has been let to C. S. Seale, Sicily Island, La., and contract for stringing pipe to Cox & Carpenter, Bastrop, La.; contract for Montgomery Division let to O'Brien Bros. Construction Co., 1923 N. Kildar Ave., Chicago; work on Macon division to W. S. Bibb, Birmingham; pipe for construction during summer, expending approximately \$15,000,000 has been shipped; contract for compressor station at Pickens, Miss., has been let to A. M. Lockett & Co., will contain five 1250 h.p. compressors, cost about \$30,000; A. M. Lockett & Co., Houston, Texas, and New Orleans, La., also has contract for additional 1250 h.p. compressor for Reform Station, completed last year; will construct at D'Armandville, Ala., compressor station with two 1000 h.p. compressors which have been ordered from Cooper-Bessmer Corp., Mt. Vernon Ohio; portion of construction of these compressor units will be done by Natural Gas Engineering Corp., cost of additional compressors units will be \$1,210,000; material has been ordered and work expected to begin within next few days upon compressor units; work going forward on lateral lines that have been announced; contracts for pipe involving \$4,000,000 have been let to United States Steel Corp., 71 Broadway, New York, Republic Iron & Steel Co., Youngstown, Ohio, and A. O. Smith Corp., Milwaukee, Wis.

Ala., Atmore—Southern Natural Gas Corp., First National Bank Bldg., Birmingham, reported, applied for gas franchise.

Ark., Nophlet—MacMillan Petroleum Products Co., El Dorado, started work on \$250,000 oil refinery with daily capacity 2500 bbl. crude oil; C. C. Benz, Constr. Engr.

Ark., Russellville—Louisiana Oil Refining Corp., Shreveport, La., acquired Cowan Oil Co.; no building or improvements contemplated.

Fla., St. Petersburg—Gulf Tidewater Oil Co., incorporated; Warren W. Baker, 6935 Date Palm Ave.

Ky., Bowling Green—Kentucky-Tennessee Light & Power Co., subsidiary of Associated Gas & Electric Co., 61 Broadway, New York, reported, applied for gas franchise.

Ky., Greenville—Greenville Oil & Gas Co., capital \$24,000, incorporated; W. J. Ross, Pete Walker.

Ky., Louisville—National Consumers Oil Co., Inc., Terre Haute, Ind., reported, construct compounding plant, river terminal warehouse, 6 storage tanks, 15 filling stations; expend \$250,000.

La., Minden—Merrick Oil Co., Inc., capital \$50,000, chartered; W. F. Bradford, 408 Rosetta St., Little Rock, Ark.

La., Opelousas—Joseph Burnett, 209 E. Cevallos St., San Antonio, Tex., reported, plans erecting artificial gas plant; applied for franchise Opelousas and Eunice.

Louisiana—United Gas Co., 1601 Commerce St., Houston, Tex., reported, submitted proposals in forty-four towns and cities in Southwest and Southern Louisiana for supplying natural gas for fuel; towns through which gas will be piped include, DeQuincy, Lake Charles, Crowley, Jennings, Rayne, Broussard, Church Point, Cottonport, Long Bridge, etc. 4-3

Miss., Jackson—Mississippi Petroleum Co., capital \$500,000, incorporated; N. A. Webster, Bridges Bldg.

Miss., Jackson—Jackson Royalties, Inc., capital \$50,000, incorporated; J. Y. Downing, Jefferson and Wells Sts.

Mo., Crystal City—Missouri Natural Gas Co., 1017 Olive St., St. Louis, reported, plans installing distributing system; has franchise.

Mo., Jefferson City—Missouri Power & Light Co., reported, applied for gas distributing franchise.

Miss., Macon—Mississippi Natural Gas Corp., Watts Bldg., Birmingham, Ala., soon begin work on distribution system; has franchise. 4-24

Mo., Plattsburg—General Utilities Co., 824 Oak St., Kansas City, reported, applied for gas franchise.

N. C., Mount Airy—Atlantic Gas Co., Philadelphia, Pa., D. L. Thompson Co., and Southern Public Utilities Co., Charlotte, negotiating for gas franchise.

Oklahoma—Ajax Pipe Line Co., H. S. Austin, Pres., Kennedy Bldg., Tulsa, subsidiary of Standard Oil Co. of New Jersey, 26 Broadway, New York, reported, begin immediate construction of 2 10-in. lines from Glenn pool in southern Tulsa County to Alton, north of St. Louis and across Mississippi River in Illinois; pipe lines will have daily capacity of 5000 bbls. crude oil; build pump stations at intervals of 40 miles; Ford, Bacon & Davis, Inc., 39 Broadway, New York, surveyed line; H. M. Stevenson, Ch. Engr. of company. -612

Oklahoma—Stockholders of Pierce Petroleum Corp., 52 Wall St., New York, reported, ratified sale of company's assets to Sinclair Consolidated Oil Corp., Sinclair Bldg., Tulsa. 5-22

Okla., Atoka—City votes June 24 on granting gas franchise to Midwestern Gas Distributing Co.

Okla., Oklahoma City—Amalgamated Petroleum Co., capital \$60,000, incorporated; Murray F. Gibbons, 2055 W. 22nd St.

Okla., Oklahoma City—Plains Petroleum Corp., capital \$30,000, incorporated; Frank P. Douglas, Petroleum Bldg.

Okla., Oklahoma City—Schafer Oil Corp., Magnolia Bldg., capital \$150,000, incorporated; Henry and Harry J. Schafer.

Okla., Oklahoma City—Will-Roy Oil & Gas Corp., capital \$150,000, incorporated; W. O. Smythe, Terminal Bldg.

Okla., Oklahoma City—Emahaka Oil Co., capital \$40,000, incorporated; C. O. Doss, 418 W. 20th St.

Okla., Oklahoma City—Natural Gas Development Corp., capital \$50,000, incorporated; George H. Burress, Perrine Bldg.

Okla., Oklahoma City—Pace Petroleum Corp., capital \$50,000, incorporated; S. A. Pace, 1024 West 14th St.

Okla., Oklahoma City—Slick Pipe Line Corp. incorporated; T. B. Slick, Colcord Bldg.

Okla., Oklahoma City—Southern Natural Gas Corp. of Oklahoma, capital \$150,000, incorporated; R. N. Livesay, 600 W. Eubank St.

Okla., Tulsa—Skelly Oil Co. completed details for sale of \$12,000,000 of 8% preferred stock through syndicate of New York and Chicago bankers; announced expansion program covering next 2 years, including lubricating plant at El Dorado, Kans.; new refinery in Texas Panhandle near Pampa, under consideration; plant will probably be inaugurated as topping and cracking plant, 500 bbls. daily capacity; between 400 and 500 additional company-owned bulk and service stations are expected to be built or ac-

quired; expansion of company's oil pipe line is planned, probably into Oklahoma; appropriation will be made for further development of Skelly gas acreage in Texas Panhandle; work has begun by groups of interests, including Skelly Oil Co., for construction of 800 mile high capacity gas pipe line from Texas Panhandle to Chicago and intermediate markets.

Okla., Tulsa—Negotiations, reported, under way for absorption of Transcontinental Oil Co., Tulsa, by Ohio Oil Co., Findlay, Ohio; Transcontinental Oil Co. owns directly or controls United Producers Pipe Line Co., Marathon Oil Co. and has refineries at Boynton and Bristow, Okla., and Fort Worth, Tex.

2-27

Tenn., Fountain City, Knoxville—Knoxville Gas Co., Knoxville, extending gas distributing system to Fountain City; 6-in. feeder main on Broadway will also be extended; pipe purchased; work by company's forces.

6-12

Tenn., Union City—Tennessee Gas Co., Bryon T. Gifford, Pres., 22 W. Monroe St., Chicago, Ill., and North First St., Union City, making survey; begin construction work gas mains and plant in July.

6-5

Texas—Houston Pipe Line Co., subsidiary of Houston Oil Co., Petroleum Bldg., reported, extending gas line to connect in Goliad County with line to Guadalupe River, near Victoria; also obtaining right of way for second line to Houston; use 12-in. pipe.

6-12

Texas—Natural Gas Co. of America, Delaware corporation, reported, formed to finance and operate gas line through funds furnished by group of companies including Standard Oil Co. of New Jersey, 26 Broadway, N. Y.; Insull Son & Co., Inc., 20 Wacker Drive, Chicago; Columbian Carbon Co., Kanawha National Bank Bldg., Charleston, W. Va.; Phillips Petroleum Co., Bartlesville, Okla.; and Skelly Oil Co., Skelly Bldg., Tulsa Cities Service Co., 60 Wall St., New York; & Texas Corp., 135 E. 42nd St., N. Y.; line will extend from South Oklahoma to Chicago, Ill., and other centers including Indiana and intermediate points; Continental Construction Co., Professional Bldg., Kansas City, Mo., lately noted formed to construct line; pipe line will have initial daily delivery capacity of 30,000,000 cu. ft. of gas; construction to begin at once on number of gas compressor stations, totaling 70,000 h. p.

6-12

Texas—See Garages and Filling Stations.

Texas—Union Gulf Corp., organized as subsidiary of Gulf Oil Corp. of Pennsylvania, Frick Annex, Pittsburgh, Pa., offering \$60,000,000 collateral trust sinking fund 5% gold bonds through Union Trust Co. of Pittsburgh, and associates; properties of company and its subsidiaries will include pipe line system which will connect near Tulsa, Okla., with present pipe line system of Gulf Oil Corp. of Pennsylvania and will extend to refineries that will be acquired or constructed at Toledo and Cincinnati, Ohio, and Pittsburgh, Pa.; through these facilities the large production of subsidiaries of Gulf Oil Corp. of Pennsylvania in Mid-Continent Louisiana, Arkansas and Texas fields will be available to supply present marketing facilities and to meet growth and expansion in territory east of Mississippi River.

Texas—Moody-Seagrave Interests, Esperson Building, Houston, G. E. Barrett Interests, 120 Broadway, New York, reported, acquired additional natural gas holdings in Texas by acquisition of substantial stock interests in Saxet Company of Texas, Houston, Texas; Saxet Company is Delaware organization, operating in Texas through wholly owned subsidiaries; production capacity 27,000,000 cu. ft. natural gas daily from south Texas fields and 5000 bbls. oil daily from 5 different Texas areas.

Texas—Phillips Petroleum Co., Bartlesville, Okla., let contract to Kelly Dempsey Co., 1222 Hunt Bldg., Tulsa, Okla., for construction \$15,000,000 8-in. gasoline pipe line Borger, Tex., to St. Louis, Mo.

6-12

Tex., Houston—Coastline Exploration, Inc., chartered; Leslie N. Shaw, Second National Bank Bldg.

Tex., Huntsville—Moran Corp., W. T. Moran, Pres., Slatery Bldg., Shreveport, La., reported, applied for gas franchise.

Tex., San Antonio—Linden Petroleum Corp., capital \$25,000, incorporated; R. L. Montgomery, 347 Pershing St.

Tex., Texarkana—Southern Cities Distributing Co., 60 Wall St., New York, granted 25 yr. gas franchise.

Va., Norfolk—Merger, reported, contemplated by City Gas Co., Norfolk, and Virginia Electric and Power Co., Richmond; about \$750,000 outstanding in 8% preferred stock of City Gas Co. will be traded in on basis of 6 shares for 8 shares of Virginia Electric & Power Co. 6% shares.

W. Va., Bluefield—Gulf Refining Co., Frick Annex, Pittsburgh, Pa., reported, expend \$50,000 for distributing plant.

W. Va., Blacksville—Blacksville Oil and Gas Co. incorporated; H. J. Brownfield, D. M. Willis.

W. Va., Charleston—Calhoun Natural Gas Co. incorporated; H. R. Anderson, Kanawha National Bank Bldg.

W. Va., Charleston—Island Gas Co., capital \$25,000, incorporated; R. E. Cassidy, New Kanawha Valley Bank Bldg.

W. Va., Charleston—Colonial Gas Co., incorporated; Ben Moore, New Kanawha Valley Bank Bldg.

Ice and Cold-Storage Plants

Fla., Avon Park—Florida Public Service Co. start erecting 10-ton ice plant within 30 days; to be in operation about Sept. 1.

Fla., Miami—Domestic Light Co., 134 N. W. Third Ave., changing name to Domestic Refrigeration Co., Inc.

Ga., Macon—See Miscellaneous Enterprises.

Tex., Denton—City Comsn. instructed City Engineer W. N. Harris to secure figures on machinery for equipping municipal ice plant, approx. 25 tons, both on raw and distilled water ice machinery.

Va., Waynesboro—Waynesboro Cold Storage Corp., incorporated; Edward R. Tatum, Pres., Larchmont, N. Y.

Iron and Steel Plants

Ala., Gadsden—Gulf States Steel Co., Brown-Marx Bldg., Birmingham, reported, let contract to Nashville Bridge Co., Foot of Shelby Ave., Nashville, Tenn., for 225 tons struct. steel for soaking pits.

6-5

Land Development

Fla., Jacksonville—Alfred I. du Pont, interests, Barnett, Bldg., reported, develop subdivision adjacent to Alfred I. duPont estate, south of city; construct 60 ft. streets; divide 50 acres into lots on south side of Christopher Creek.

Fla., Jacksonville—James W. Edmondson, Law Exchange, developing 276 acres in Duval County for small farms, water front estates, etc.; completed 35 houses, erecting 6 now; install light and water; expend \$20,000; R. L. Croasdell, Constr. Engr. 6-12

Fla., Jacksonville—M. M. Hogan, 317 W. 10th St., reported, acquired Hyde Park Country Club and golf course; 146 acres; plan improvements, including swimming pool, tennis courts, etc.

Fla., Jacksonville—America's Playground, Inc., E. Z. Jones, Sr., Pres., 325 W. Forsyth St., reported, acquired 11,000 acres in Levy County near Gulf Coast; develop for airport, golf links and other recreational activities; build clubhouse.

Fla., Tampa—Residential Properties, Inc., chartered; John R. Walsh, 318 Madison St.

Ga., Columbus—City, H. B. Crawford, Mgr., acquired 6½ acres for park improvements.

Md., Baltimore—Frank Novak Realty Co., Thirty-third St., acquired 21 acres along Her-ring Rd. east of Belair Rd.

Mo., Sturgeon—Perpetual Care Cemeteries, capital \$50,000, chartered; H. Reld Frisbie.

Miss., Gulfport—Hamilton Bros., Gulfport, has contract at \$12,000, for water mains. 6-5

Miss., Pass Christian—Shadowlawn Amusement Co., Ltd., Mrs. Waldo Mayer, Pres., 2715 Soniat St., New Orleans, La., develop amusement park, residential district, with paved streets, sidewalks and white way.

Mo., Kansas City—Oakwood Golf & Country Club, Dodson, acquired 30 acres adjoining club.

Mo., Kansas City—H. A. Kepler, 700 N. 12th St., and W. A. Kepler acquired 115 acres 18 miles from here in Wyandotte County.

N. C., Charlotte—Atlantic Realty & Investment Co., capital \$100,000, incorporated; S. B. Hagler, 220 S. Laurel Ave.

N. C., Charlotte—Crescent Realty Co., capital \$50,000, incorporated; J. D. Shaw, Law Bldg.

N. C., Charlotte—Poplar Realty Co., capital \$100,000, incorporated; A. G. Brenzier, Professional Bldg.

N. C., High Point—City develop 75 acres playground and park; A. C. York, Mayor.

N. C., High Point—Kiwanis Club, John Williamson and Sam Holt, interested in development of parks and playgrounds.

Tenn., Jackson—Southern Land Co., capital \$25,000, incorporated; C. K. Goodrich, A. V. Linseth.

Tenn., Johnson City—American Realty Co., capital \$25,000, incorporated; C. S. Bowers, J. S. Gray.

Tenn., Memphis—Jadora Realty Corp., incorporated; Walter P. Armstrong, 1219 E. Parkway S.

Tex., El Paso—Ware Co., Inc., capital \$75,000, incorporated; V. E. Ware, 400 W. Lowenstein St.

Tex., Fort Worth—Kimball Bend Pecans, Inc., A. W. Glazier, Fort Worth National Bank Bldg., has 4000 acres, developing 2000 acres for pecans.

6-12

Tex., Houston—Houston Suburban Corp., incorporated; V. H. Brady, 1015 W. Drew St.

Tex., Houston—E. H. Borden, 2905 Cleburne Ave., acquired 400 acres on Market St. Road.

Tex., San Antonio—Olmos Development Co., capital \$50,000, incorporated; H. C. Thorman, 605 N. St. Marys St.

Va., Charlottesville—Carlton, Inc., Donald G. Stevens, Pres., acquired 312 acres land; will develop 28 acres for Monticello Memorial Park.

Va., Harrisonburg—General Real Estate Corp., incorporated; C. L. Dundore.

W. Va., Charleston—Harry B. Embleton, 1528 Virginia Ave., E., interested in organizing company to develop golf course in Rufner Hollow; erect log club house.

Lumber Enterprises

Fla., Chipley—Hughes-Law Lumber Co., Inc., chartered; R. L. Hughes, Roscoe Law.

Tex., Pampa—Independent Lumber Co., Inc., capital \$20,000, chartered; H. R. Dunaway.

Va., Rich Creek—New River Lumber Co. acquired Builders' Lumber & Supply Co.

Mining

Louisiana—Freeport Sulphur Co., controlled by Freeport Texas Co., 52 Wall St., New York, will make drilling tests in Black Bayou section of Cameron Parish, approx. 8 mi. southeast of Orange, Tex., under agreement with Shell Petroleum Corp., Shell Bldg., St. Louis, Mo.; expend approx. \$100,000 for initial work.

La., Winfield—Louisiana Development Co., reported, let contract to Dravo Contracting Co., Penn. Ave., Pittsburgh, Pa., for sinking shaft for salt mine, 740 ft. inside diam. conc. lined; \$250,000.

Tex., Freeport—Freeport Texas Co., Eugene L. Norton, Pres., 52 Wall St., plans extensive improvements to Hoskins Mound plant near here, to increase capacity 30%; improvements to include methods of treating water supply, use of flue gases for preheating feed water and various other engineering economies recommended by company's research department.

Va., Staunton—Virginia Limestone Products, Inc., capital \$125,000, chartered; R. L. James; quarrying and mining.

Va., Tazewell—Swords Creek Mining Corp., capital \$50,000, incorporated; R. O. Van Dyke.

W. Va., Narrows—Union Carbide Co., Carbide & Carbon Bldg., New York, reported, establish large limestone plant in near future; produce 100 cars daily.

Miscellaneous Construction

Arkansas—See Vicksburg, Miss.

D. C., Washington—House of Representatives adopted Senate resolution for erecting memorial to William Jennings Bryan; probably to be tower with carillon bells.

Louisiana—See Vicksburg, Miss.

Louisiana—Congress passed Bill appropriating \$50,000 for fish cultural station in Louisiana; signed by President; appropriation not yet available; Henry O'Malley, Commr. of Fisheries, Dept. of Commerce, Washington.

La., Bordelonville—Doullut & Ewin, Inc., Queen & Crescent Bldg., New Orleans, have contract for flood gate of Bd. of State Engrs., New Orleans Court Bldg.

6-5

La., New Orleans—Bd. of Commrs. of Port of New Orleans Court Bldg., opens bids June 24 for constructing conc. foundations on timber piling for \$1,100,000 Mandeville Street wharf, involving following approx. quantities: Item 1, piling, (a) unloading and driving piles, 1250 piles; (b) cutting new and old piles, 3650; (c) brush treating pile cut offs, 3500; Item 2, excavation, (a) excavation as required, 1050 cu. yd.; Item 3, rein. conc. and incidentals, (a) form bottoms as required, 32,000 sq. ft.; (b) wharf footings, column pedestals and struts, 3900 cu. yd.; (c)

1½ in. x 2 ft. x 4 in. anchor bolts and fittings, 2286 bolts. 6-12

Missouri—See Memphis, Tenn.

Miss., Holly Springs—Levee—Marshall County Bd. of Supvrs. receives bids July 8, for 3 levees. See Roads, Streets, Paving.

Miss., Biloxi—Paul D. Bonham, Gulfport, selected as engineer to supervise construction of 7000-ft. stretch of sea wall at Hearts-ease Park, to cost \$119,000; appointment recommended by Road Protection Comsn. 5-1

Miss., Vicksburg—U. S. Engr. Office, P. O. Box 667, reported, let contracts for portion of approx. 10,400,000 cu. yd. levee work, Mississippi River, Mississippi, Arkansas and Louisiana, and 4,385,000 cu. yd. Arkansas River, Arkansas designated as follows by name, section, yardage, contractor, price; Mississippi River—Duckport, Sections 1 and 2, 1,252,000, Fred M. Crane Co., 210 S. 24th St., Omaha, Neb., 37 cents; Catfish Point, Item 14, Sec. 1, 558,000, Rogers, Jones & Uzzelle Company, 62 S. Front St., Memphis, Tenn., 44 cents; Below Greenville, New Levee, 594,000, Canal Construction Co., McCall Bldg., Memphis, Tenn., 25 cents; Reid Bedford New Levee, Item 2, Sections 1 and 2, 804,000, J. H. Boyce Sons Co. and Roy L. Igo, Omaha, Neb., 37 cents; Below Greenville New Levee, Item 16, Sections 1 to 7, 2,621,000, Government plant and hired labor; Arkansas River—Below Jefferson-Lincoln county line, Item 25, Sec. 2, and Item 26, 1,055,000, T. W. Crew, Fayette, Miss., 23.87 cents; Below Douglas to South Bend, Items 30 and 31, 825,000, W. E. Callahan Construction Co., Arcade Bldg., St. Louis, Mo., 20 cents; Kimbrough to Kitchakoo, Item 28, 525,000, Upper State Farm, Item 29, 525,000, Upper State Farm, Item 32, 330,000, Rogers-Jones & Uzzelle, at 26.80 cents for Item 28, 25.40 cents for Item 32, 26.80 cents. 6-19

Miss., Vicksburg—U. S. Engr. Office, P. O. Box 667, opens bids June 25 for constructing approx. 608,000 cu. yd. earthwork, Mississippi River, Mississippi, east bank, sub-project Item No. 14, Sec. 2, 418-L miles below Cairo, enlargement, 27 ft. average height.

Mo., Kansas City—Ismerth-Hincke Milling Co., George E. Hincke, Pres., 18th St. and Delaware Ave., starting construction on 500,000-bu. elevator unit; plans large warehouse and various mill improvements.

Mo., St. Louis—City Plan Comsn. will begin study looking to recommendations for constructing series of pedestrian tunnels to enable pedestrians to enter Forest Park at Lindell Blvd. and Kingshighway without interrupting flow of traffic around 200-ft. traffic circle with the commission already has approved and which is authorized by ordinance; cost \$310,000; plans by W. W. Horner, Ch. Engr., Paving and Sewers.

Okla., Oklahoma City—City, W. C. Dean, Mayor, reported, has consulting engineers' report filed for \$11,000,000 flood control project on north fork of Canadian River; Hawley, Freese & Nichols, Capps Bldg., Fort Worth, Tex., and D. C. Mead, Madison, Wisc., Consult. Engr.; C. E. Bretts, City Water Engr.

Tenn., Memphis—U. S. Engr. Office, McCall Bldg., let contract to National Steel Fabric Co., Union Trust Bldg., Pittsburgh, Pa., at \$83,400, for 60,000 pieces rein. steel fabric to be used in revetment work; about 65,000 slabs will be placed in New Madrid Bend.

Tenn., Nashville—City votes June 26 on \$150,000 bonds for establishing President's Plaza in city and erecting memorial thereon.

Tex., Dallas—Biltmore Conservation Corp., O. W. Wahlstrom, Gen. Mgr., P. O. Box 817, Petaluma, Calif., advises, Dallas plant will cost approx. \$225,000; majority of equipment of own design; have capacity of 125 tons food waste in 24 hours, operating 3 shifts; 16,000 sq. ft. floor space; construction to begin in 35 to 60 days. See Want Section—Machinery and Supplies. (See Miscellaneous Enterprises, 5-29.)

Tex., Houston—Houston-Harris County Ship Channel Navigation Dist., B. C. Allin, Port Director, opens bids July 7 for \$20,000 stationary derrick between Wharves 11 and 12, for office building in connection with grain elevator, 38x39 ft.; 2 story laboratory building, 28x28 ft., rein. conc., hollow tile. 6-12

Tex., New Braunfels—City considering \$20,000 bond election for incinerator.

Tex., Port Arthur—Sea Wall—City Comsn., J. W. O'Neal, Mayor, opens bids July 1 for furnishing all necessary materials, except steel piling, equipment and labor necessary to construct certain storm protection improvements; principal approx. quantities include: 93,924 sq. ft. steel sheet pile wall to be driven (piling furnished by city), 143,600 lb. steel walers, caps, etc., 316,578 lb. anchor rods, 1184 cu. yd. rein. conc., 11,715 lin. ft. timber piles, 103,652 ft. b. m. fender

timbers, 20,581 cu. yd. fill; J. B. Converse & Co., Inc., Engrs., Industrial Bank Bldg. 6-5
Tex., Port Lavaca—City considering \$30,000 bond election for bay front improvements.

Va., Cherry Hill—District Commrs., District Bldg., Washington, D. C., let contract to Bethlehem Fabricators, Inc., Bethlehem, Pa., for struc. steel in connection with remodeling garbage reduction plant; improvements to cost approx. \$25,000; construction by day labor; private plans.

Miscellaneous Enterprises

Ala., Birmingham—Birmingham Electric Battery Co., 2230 Second Ave., has plans complete, ready for bids, on building addition, Ave. B and 22nd St.; 2 story, 25x140 ft., brick, elevator; Wm. Leslie Wilton, Archt., American Trust Bldg.

Ala., Mobile—Champion Coated Paper Co., Logan G. Thomson, Secy. and Treas., Hamilton, Ohio, advises regarding report that company would erect \$11,000,000 plant here, no decision made; acquired site at Tuscaloosa and also looked into matter of probable location at Mobile but no decisions made and also no decision as to architects, engineers, or character of construction. 6-12

Ala., Tusaloosa—See Mobile.

Ark., Pine Bluff—Southwest Dairy Products Corp., Santa Fe Bldg., Dallas, Tex., F. J. Rogers, Mgr., Pine Bluff Branch, 825 Main St., announced plans for establishing 240-acre model dairy, poultry and stock farm 9 mi. south of city on Risson Rd.; to be electrified and provided with running water.

Fla., Daytona Beach—Sani Chemical Co. incorporated; P. J. Kelly, Alfred A. Smith; insecticides.

Fla., Miami—George E. Bunnell, Inc., chartered; George E. Bunnell, 46 N. E. 47th St., Jordan B. Peck, First National Bank Bldg.; engineering and contracting.

Fla., Lakeland—Zellner Chemical & Supply Co. incorporated; H. Grady, Zellner, B. D. West; chemical for citrus fruit.

Fla., Panama City—Stupp Bros. Bridge & Iron Co., 8326 Ave. G., St. Louis, Mo., reported, has contract for 2000 tons structural steel for paper plant of Southern Kraft Corp., 466 Michigan Ave., Mobile, Ala., subsidiary of International Paper Co., 100 E. 42nd St., New York; owner, Gen. Contr. 5-8

Fla., Tampa—Corral, Woodiska & Co., H. S. Foley, Secy., 2601 Jetton Ave., let contract to W. P. Richardson Construction Co., Inc., 1003 4. Cass St., for addition to hand-made cigar plant; 20x86 ft., conc.; install automatic sprinklers; excavating for foundation; Fred J. Jaines, Archt., Citizens Bank Bldg. 6-12

Fla., West Palm Beach—Alfar Creamery Co. incorporated; Alf R. Nielsen, Guaranty Bldg.

Ga., Columbus—W. H. Cargill Co., 10th St., syrup manufacturer, receives bids about June 20 for alterations and additions to warehouse, 10th Ave. and 11th St.; install tanks, holler, etc.; new floor, new wiring, steam heat, etc.; Smith & Biggers, Archts., Murrah Bldg.

Ga., Macon—Central of Georgia Ry. Co., A. E. Clift, Pres., Savannah, let contract to M. E. Shaw, 1605 Vineville Ave., Macon, for \$25,000 building; 1 story, brick; plans call for cold-storage plant and other improvements; National Biscuit Co., Lessee.

Ga., Macon—W. T. Anderson and P. T. Anderson, owners of Macon Telegraph, morning newspaper, acquired Macon News, afternoon newspaper; News to be published with separate editorial and news staff from plant of Telegraph.

Ky., Lexington—Spottswood Specialty Co., A. T. Linney, V.-Pres., 218-22 Jefferson St., manufacturer of advertising novelties and specialties, plans addition; 1 story, 25x170 ft.

Ky., Louisville—High Rock Ginger Ale Co., 709 S. 15th St., plans expanding plant in near future.

La., Bogalusa—Bogalusa Paper Co., R. H. Laftman, V.-Pres. and Gen. Mgr., let contract to H. J. Cowgill, Bogalusa, for corrugated board plant machine room building; 1 story, basement, 335x43 ft., rein. conc., brick, rein. conc. foundation, misc. iron, brick, comp. roof, sheet metal, metal sash.

La., Lafayette—New Lafayette Steam Laundry, Inc., J. L. O'Donnel, Secy., increasing capital to \$125,000.

La., New Orleans—Adams Baking Co., Inc., capital \$20,000, chartered; A. C. Zehender, Broad and Bruxelles St.

La., New Orleans—Three Man Gravel Plant Co., Inc., capital \$16,000, chartered; A. D. Alderson, Bienville Hotel.

La., Shreveport—A. C. Moore and Carey Spence, Hattiesburg, Miss., probably let con-

tract in few days to H. C. Bellows, Ricou-Brewster Bldg., Shreveport, for \$16,000 laundry, Market St.; 1 story, 60x100 ft., brick.

Md., Baltimore—Maryland Brass & Metal Works, William Giarrel, Jr., Pres. and Mgr., Calvert and Federal Sts., manufacturer of brass, copper, bronze and aluminum castings, has construction under way on plant, beyond eastern city line, near Rosedale Station; 1 story, 200x50 ft.; Maryland Metal Building Co., Gen. Contr., McComas and Race Sts.; private plans.

Md., Baltimore—Directors of Consolidated Instrument Co. of America, Inc., 41 E. 42nd St., New York, parent company of Julien P. Friez & Sons, Inc., 4 N. Central Ave., approved and recommended to stockholders offer from Bendix Aviation Corp., Central Bldg., 45th St. and Lexington Ave., New York, to purchase assets of Consolidated Instrument Co. of America, Inc.; meeting of stockholders to be held in Baltimore July 9 to act on proposal.

Md., Elkton—Mac's Laundry expand plant.

Md., Curtis Bay, Baltimore—Commercial Pigments Corp., Curtis Bay, and 230 Park Ave., New York, let contract to United Engineers & Constructors, Inc., 112 N. Broad St., Philadelphia, Pa., to design and erect \$500,000 addition to paint pigments plant; erect additional buildings, install equipment, enlarge boiler room, etc.; construction not started.

Miss., Aberdeen—Aberdeen Bottling Works, C. C. Clark, West Point, opens bids June 24 for \$15,000 office and bottling plant, S. Meridian and Washington St.; 1 story, mezzanine, rein. conc. foundation, built-up comp. roof, brick, stone trim, steel and iron work, sheet metal, glazing, millwork; following estimating on general contract: Addison Brannin & Son, Aberdeen; D. S. McClanahan, Columbia; Earl Cline, Macon; A. D. Simmons Construction Co., West Point; Thos. B. Hents, Starkville; Chastang Construction Co., Amory; A. J. Pearson, West Point; T. K. Barefield, Jr., Meridian; McArthur & McLemore, Meridian; P. J. Krouse, Archt., M. & W. Bldg., Meridian.

Miss., Bruce—Calhoun County Farm Bureau, Calhoun City, let contract to T. M. Majors, Tupelo, and R. L. Roberts, Pontotoc, for co-operative creamery; brick, conc.; main plant to be here with branch at Calhoun City.

Mo., Kirksville—Kirksville Daily Express, Edward E. Swain, let contract to L. F. Pohlman, Kirksville, for \$25,000 newspaper building, McPherson Ave.; general contractor to take bids on plumbing, heating and electric wiring, architect to take all other sub-bids; 2 story, 33x83 ft., brick; Bonsack & Pearce, Archt., 411 Olive St., St. Louis. 5-8

Mo., Springfield—Dr. Pepper Bottling Co., capital \$15,000, incorporated; George Henry Wilcox, Sherman, Tex.

Mo., Springfield—Springfield Garment Mfg. Co., 871 Boonville Ave., capital \$25,000, incorporated; Mrs. Lulu K. Elsinger.

Mo., St. Louis—Wardrobe Cleaning & Dyeing Co., 4803 Ledue St., capital \$50,000, incorporated; Sarah Margulis, Albert Smith.

Mo., St. Louis—Matthews Electric Corp., 3722 Forest Park St., has permit for \$10,000 plant, 3722 Forest Park St. 2 story, 92x20 ft., comp. roof; Murch Bros. Construction Co., Railway Exch. Bldg., Gen. Contr.

Okla., Oklahoma City—Safety Appliance Corp., capital \$25,000, incorporated; W. D. Fawcett, 1817 West 13th St.

Okla., Oklahoma City—Times-Journal Publishing Co., 100 E. Second St., increasing capital, \$100,000 to \$150,000.

Okla., Oklahoma City—Nehi Bottling Co., capital \$25,000, incorporated; T. P. Holcomb, 15166 W. 41st St.

N. C., Elkin—Elkin Tobacco Warehouse Co., Inc., capital \$50,000, chartered; N. E. Fulton, W. G. Lindsay.

N. C., Greensboro—Greensboro News, morning newspaper, acquired Greensboro Record, afternoon paper; physical properties of 2 papers to be combined; Record to be published from News plant.

N. C., Salisbury—Percy Bloxam Co., Inc., capital \$50,000, chartered; Percy Bloxam, George Cata Anderson; architects.

Tenn., Memphis—Jones Construction Co., incorporated; J. W. Jones, 3169 Summer St.

Tex., Dallas—Jaggars-Chiles-Stovall, Inc., capital \$55,000, chartered; T. L. Jaggars, 825 N. Marsalis St.; printing, publishing, etc.

Tex., Dallas—J. C. Williamson, 1901 Grand Ave., and H. O. Wood, organizing firm to manufacture electrically lighted lawn sprinklers.

Tex., Houston—Consolidated Casualty Insurance Co., capital \$100,000, incorporated; H. A. King, 3603 Yoakum.

Tex., Houston — B. W. Armstrong, Gulf Bldg., has permit for \$39,500 candy plant, 3306 Main St.

Va., Danville—Swanson's Milk Farm, Inc., capital \$50,000, chartered; A. B. Swanson, Swansonville.

Va., Lynchburg—Wades Veterinary Remedies Corp., capital \$40,000, incorporated; B. M. Wade; manufacture drugs, medicines, etc.

Va., Newport News—Newport News Wet Wash Co., Inc., W. G. Garner, Secy., changing name to Newport News Laundry Corp. and increasing capital, \$15,000 to \$100,000.

Va., Richmond — Pensacola Construction Corp., capital \$15,000, incorporated; D. A. Weatherford, 3916 Seminary Ave.

W. Va., Parkersburg—Moriang Co., Henry Moriand, acquired site 5 mi. from city, Northwestern Pike, for \$25,000 abattoir; conc. construction, include extensive refrigeration equipment and modern machinery for dressing meats for retail and domestic consumption.

Motor Bus Lines and Terminals

La., Jonesboro—Harlan & Salter Bus Line, Inc., capital \$10,000, chartered; E. E. Harlan.

Miss., Jackson—Mississippi Motor Transport Corp., capital \$1,000,000, incorporated; J. K. Hirsch, Pres., 1402 Baum Ave., Vicksburg; L. E. McGregory, V.-Pres. and Gen. Mgr.; Jackson; operate 24 routes over 3680 mi. Mississippi highways.

Mo., Cape Girardeau—Southwestern Transportation Co., Rector Bldg., Little Rock, Ark., subsidiary of St. Louis Southwestern Ry. Co., D. Upthegrove, Pres., St. Louis, Mo., acquired Burton Bus Line, 220 N. Fountain St., owned by Tom Burton, Dexter, operating between Cape Girardeau and Kennett; probably extend service.

Tenn., Knoxville—Merrill D. Arnold, Pres., Fidelity-Bankers Trust Co., advises contract will soon be let by his company as trustees for Daniel Briscoe Estate for modern bus terminal, State St., to connect by arcade with Briscoe Bldg. on Gay St. between Union and Commerce; arcade stores will be developed as will also 2 stores front on Gay St.; present building, State St., to be razed and modern fireproof, conc. and steel terminal to be erected; present mercantile building, Gay St., to be remodeled for stores; Manley & Young, Archts., Maplehurst Park. 6-12

Railways

Ark., Port Aransas — Eastern syndicate headed by Gall Borden Nunsill, Winsted, Conn., acquired Aransas Harbor Terminal Ry., W. A. Scrivner, V.-Pres., and Aransas Dock & Channel Co.

Ark., Turmann — St. Louis Southwestern Ry. Co., W. S. Hanley, Ch. Engr., Tyler, Tex., reported, let contract to Reid & Lowe, 2100 14th St., Birmingham, Ala., for grading 15 mi. standard gauge railroad, Turman to Caraway; tracking, ballasting, trestles, bridges with own forces; \$800,000.

Tenn., Johnson City—Southern Ry., B. Herman, Ch. Engr., L. G. Wallis, Special Engr., Washington, D. C., and City, W. B. Ellison, Mayor, making preliminary surveys for relocating tracks through city.

Tex., Amarillo—Atchison, Topeka & Santa Fe Ry. Co., G. W. Harris, Ch. Engr., Chicago, Ill., let contract to Sharp & Fellows Contracting Co., 533 Central Bldg., Los Angeles, Calif., for line, Amarillo, to Boise City, Okla.; principal quantities include following: Amarillo to Mile Post 34—773,000 cu. yd. common excavation, 122,000 cu. yd. loose rock excavation, 100,000 cu. yd. solid rock excavation, 1,518,000 cu. yd. embankment, 950 lin. 450 tons steel girders, 3050 cu. yd. reinf. conc. in boxes, 1850 cu. yd. conc. in bridge piers, 34 mi. tracklaying; Mile Post 34 to Boise City—163,000 cu. yd. common excavation, 53,000 cu. yd. loose rock excavation, 60,000 cu. yd. solid rock excavation, 1,422,000 ft. ballast deck trestles, 250 m. b. m. creosoted wood boxes, 2900 lin. ft. reinf. pipe, cu. yd. embankment, 1720 lin. ft. ballast deck trestles, 320 lin. ft. open deck trestles, 1240 lin. ft. ballast deck T-rail trestles, 1110 lin. ft. reinf. conc. pipe, 200 b. m. b. creosoted wood boxes, 86 mi. tracklaying. 5-29

Tex., Pasadena—See Roads, Streets, Paving.

Va., Roanoke—Ingalls Iron Works, 720 4th Ave., S., Birmingham, Ala., reported, has con-

tract for 800 tons struc. steel for shops of Norfolk & Western Ry. Co., W. P. Wiltsee, Ch. Engr. 3-6

Roads, Streets and Paving

In connection with LAND DEVELOPMENT large sums are expended for roads, streets, paving and sidewalks. Details will be found under that classification.

Proposed Construction

Ala., Birmingham—Jefferson County Bd. of Revenue plans extending paving 5 mi., from end of Hueytown Loop on Taylor's Ferry road to Aaron's Store.

Arkansas—State Highway Comsn., Little Rock, plans starting soon to asphalt about 13 mi. Magnolia-Stephens State Highway, and Magnolia-El Dorado State Highway to county line; C. S. Christian, State Highway Engr.

Ark., Mena—City plans expending \$127,000 for street paving. See Financial News Columns.

Florida—State Road Dept., Tallahassee, received low bids for 4 roads and 12 bridges: Bay and Jackson Counties—29.43 mi. Florida lime rock base. Road No. 20, Bayou George to pavement in Jackson County, Marianna Lime Products Co., Marianna, \$2,980,375; Gilchrist and Alachua Counties—12.26 mi. Florida lime rock base, Road No. 14, Trenton to Newberry, L. M. Gray, Gainesville, \$99,942; Lee County—1.89 mi. Florida lime rock base and curb, gutters and sidewalks, Road No. 5, approaches to Caloosahatchee River Bridge, Fred D. Beasley, 912 20th Ave., Tampa, \$24,535; Collier County—surface treatment on rock base, Road No. 27, Naples to Lee County line, Fred D. Beasley, \$20,291; Bay County—3 timber bridges, 45 ft. long, Road No. 10, J. U. Fletcher, Crestview; 5 timber bridges, 555 ft. long, Florida Bridge and Construction Co., 49 Lorna Doone Blvd., Orlando; one 60-ft. timber bridge, R. J. Arrington & Son, DeFuniak Springs; Palm Beach County—3 creosoted timber bridges, Road No. 143, Central Florida Construction Co., Green Cove Springs, \$7991; B. M. Duncan, State Highway Engr. 5-22

Fla., Tavares—State Road Dept., Tallahassee, probably start work soon on road between Tavares and Mount Dora, Lake County; B. M. Duncan, State Highway Engr.

Fla., West Palm Beach—State Road Dept., Tallahassee, plans repairing, soon, South Ocean Blvd., between Lake Worth and Lantana road, Palm Beach County; \$40,000 appropriated; B. M. Duncan, State Highway Engr.

Ga., Athens—City, A. G. Dudley, Mayor, plans paving Woodlawn Ave., Milledge to Rosedale Ave.; Henderson Ave., Church to Milledge; probably let contract soon.

Ga., Perry—State Highway Bd., Atlanta, receives bids June 26 for .576 mi. paved Macon-Perry road, Houston County, from Survey Sta. 631 plus 56 to Survey Sta. 662 plus 60, 19,272 cu. yd. excavation and borrow, 7,103 sq. yd. limerock base, 2,131 gal. tar prime coat, 3,551 gal. asphalt; B. P. McWhorter, State Highway Engr.

Ky., Louisville—City, A. A. Hill, Dir. of Public Works, considering plans to widen to 70 ft. Second St., from Louisville Municipal Bridge to Kentucky St.

Ky., Frankfort—City, T. E. Kenney, Mayor, receives bids June 23 for paving with hot mix asphaltic conc. on reconstructed macad. base, 5 streets including Wilkinson, Washington, St. Clair, Clinton, Broadway, and intersection at Broadway and Wilkerson St. with conc.

Louisiana—Louisiana Highway Comsn., Baton Rouge, receives bids July 8 for 3 roads: East Feliciana Parish—12.1 mi. grading, draining, Norwood-Felps Highway; 4.4 mi. Woodland-Chipola Highway; West Carroll Parish—5 mi. grading, draining, Oak Ridge-Mer Rouge Highway; H. B. Henderlite, State Highway Engr.

La., Alexandria—City, Comsn. Council, received low bid from Vinson Bros., Laurel, Miss., for paving Vance Ave. with reinf. conc. from Lee St. to Bush Ave.; from B. J. Carbo, 203 20th St., Alexandria, for reinf. conc. paving, Madison St., and for resurfacing Thornton St. 5-15

La., Krotz Springs—Louisiana Highway Comsn., Baton Rouge, receives bids July 1

for surfacing highway approach trestle to Missouri Pacific R. R. bridge over Atchafalaya River at Krotz Springs on Livonia-Opelousas Highway, St. Landry and Pointe Coupee Parishes, Route No. 7; 2-in. asphalt surface; H. B. Henderlite, State Highway Engr.

La., Rayville—City, Mayor and Bd. of Aldermen receive bids June 24 to improve First St.; 800 cu. yd. grading excavation, 4000 lb. reinf. steel, 1440 sq. yds. 6-in. conc. pavement, 1-2-3 mix complete, storm sewers, etc.; Rhymes St.: 700 cu. yd. grading excavation, 1200 lin. ft. integral curb, 1200 sq. yd. 6-in. plain conc. 1-2-3 mix complete, etc.; M. L. Cully, Engr., Jackson, Miss.

La., Rayville — Richland Parish Police Jury, J. C. Salmon, Clk., plans expending \$200,000 for building, improving and maintaining roads. See Financial News.

La., Tallulah—Village, A. L. Sevier, Clk., receives bids June 25 to pave with Portland cement conc. and grade, drain, curb and gutter Depot and Mulberry St.

La., Ville Platte—Town Mayor and Bd. of Aldermen, receive bids June 24 for paving with Portland cement conc., main street of town; also for graveling certain streets; M. J. Goudeau, Jr., Engr., Opelousas.

Maryland—State Roads Comsn., Baltimore, receives bids June 24 for 10 roads: Anne Arundel County—73 mi. conc., from end of Cont. AA-79, Gambrill's to Odenton, Cont. AA-91-74; Charles County—1.5 mi. gravel, from Cross Roads toward Liverpool Point, Cont. Ch.187-84; Dorchester County—1.23 mi. conc., Flinchville-Federalburg road, end of Cont. D-30 ext. toward Federalburg, Cont. D-43-14; Garrett County — .7 mi. conc. shoulders, Oak and Third St., Oakland, Cont. G-58-611; Harford County — 1.3 mi. conc., end of conc. near Harmony Church to macad. near Darlington, Cont. H-78-42; Montgomery County—1.2 mi. conc. shoulders, Colesville road, from Burnt Mill to Whiteoak, Cont. M-152-311; Prince George's County—6.4 mi. resurfacing with hot or cold bit. mixture, Baltimore-Washington Blvd., from Beltsville to Hayttsville, Cont. P-120-311; Talbot County—4.5 mi. penetration macad. surfacing, from State Road near McDaniel toward Tilghman, Cont. T-32-22; 84 mi. conc., from bridge at Knapp's Narrows south through Tilghman, Cont. T-33-24; Washington County—5 mi. conc., from Weverton toward Gapland, Cont. W-71-64; G. Clinton Uhl, Chmn.

Maryland—State Roads Comsn., Baltimore, received low bids for 6 roads: Baltimore County—1.06 mi. conc., York road, from Baltimore City line to Cont. B-103, near Cedar Ave., P. Reddington & Sons, 2 E. Lexington St., Baltimore, \$49,175; Cecil County—1 mi. conc., from Northeast toward Elk Neck, P. D. Phillips & Bros., Salisbury, \$16,342; Charles County—1.02 mi. gravel, from State road near Bel Air toward Chapel Point, Jarboe & Houghton, Mechanicsville, \$5,547; Dorchester County—1.17 mi. conc., from end of Cont. D-46, near Lloyds to Cornersville, P. D. Phillips & Bros., \$28,251; Montgomery County—2.14 mi. conc. shoulders, from Gaithersburg to Henderson's Corner, M. J. Grove Lime Co., Lime Kiln, \$15,745; Prince George's County—6.50 mi. conc. shoulders, base and headers, Baltimore-Washington Blvd., Beltsville to Hyattsville, Pennell & Harley, Montgomery Bldg., Spartanburg, S. C., \$174,260; G. Clinton Uhl, Chmn. 6-5

Maryland—State Roads Comsn., Baltimore, received low bids for 8 roads and bridge: Baltimore City—1.10 mi. sheet asphalt, Cold Spring Lane, from Falls road to Greenspring Ave., American Paving & Contracting Co., 2525 Montebello Ave., Baltimore, \$110,851; Baltimore County—1.33 mi. conc., from end of conc. east of Monkton to Shepperd, Harry T. Campbell Sons Co., Towson, \$20,225; Charles County—1.53 mi. gravel, from Hughesville to Burnt Store, Southern Maryland Construction Co., 14 E. Lexington St., Baltimore, \$13,393; Harford County—1.76 mi. conc., from Aberdeen to Swan Creek, Development Construction Co., American Bldg., Baltimore, \$66,973; Howard County—1.26 mi. conc., Old Frederick road, from Wheelwright's gate to St. John's Lane, Christliff & Ensey, 1625 Ridgely St., Baltimore, \$23,222; Prince George's County—1.49 mi. conc., Central Ave., Baltimore-Washington Blvd. to Edmondson road, L. R. Colbert, Fredericksburg, Va., \$23,952; Somerset County—6.72 mi. conc. shoulders, Crisfield to Marion, Layfield & Waller Paving Co., Salisbury, \$26,736; St. Mary's County—2.04 mi. gravel, Chaptico-Clements road, from end of Cont. SM-35 to beginning of SM-34, Pembroke & Gasparovia, Park Hall, Md., \$11,642; Talbot County—slab bridge over Norwich Creek, under Pa. R. R. at Queen Anne, Jones & Humphreys, Wilmington, Del.; G. Clinton Uhl, Chmn.

Md., Baltimore—City, Bd. of Awards, received low bid from Arundel Construction Co., 908 Trinity St., at \$19,355, for streets in Cont. No. 554; from P. Flanagan Sons, Harford Road and B. & O. R. R., at \$73,250, for streets in Cont. No. 556; Nathan L. Smith, Highways Engr., City Hall.

Md., Baltimore—City, Bd. of Estimates, approved ordinances providing for opening, widening and grading Wilkens Ave., 100 ft. wide, from Dukeland St. to point southwest of Caton Ave.; DeSoto road, from Wilkens Ave., southeasterly; Nathan L. Smith, Highways Engr.

Miss., Holly Springs—See Bridges, Culverts, Viaducts.

Miss., Hazlehurst—City Council plans letting contract to pave about ¼ mi. Gallatin St.

Miss., Houston—Town, R. F. Brand, Clk., receives bids June 27 for 45,750 sq. yd. conc. paving; 34,100 lin. ft. conc. curb and gutter; grading, draining; C. N. Harrub Engineering Co., 705 Fourth and First National Bank Bldg., Nashville, Tenn.

Miss., Yazoo City—City, P. J. Griffin, Clk., receives bids July 2 for street improvement: 40,888 cu. yd. excavation and embankment, 14,444 lb. rein. steel; 44,674 lin. ft. combination curb and gutter, 86,948 sq. yd. 5 or 6-in. conc. base, 86,948 sq. yd. brick, Topeka, Warrenite, sheet, asphaltic conc. and limerock asphalt, etc.; McGowan & Williams, Consist. Engrs.

Miss., Walthall—Webster County Bd. of Supvrs., receives bids July 7 for furnishing gravel, and building 4¾ mi. gravel roads, in Separate Road Dist. No. "A," estimated cost \$76,000; W. C. Lindley, Dist. Engr. Eupora. 5-29

Missouri—State Highway Comsn., Jefferson City, received low bids for 87 roads and bridges. Caldwell County—.112 mi. 18-ft. conc., George W. Condon Co., Omaha, Neb.; Dallas County—3.078, 3.512 and 3.670 mi. 20-ft. conc., Garrett Construction Co., 211½ E. Commercial St., Springfield, Mo.; Hickory County—3.372, 4.555, 3.037 and 2.689 mi. 20-ft. conc., Garrett Construction Co.; Phelps County—3.078, 4.209, 2.975 mi. 20-ft. conc., Chas. N. Lund, 114 N. 7th St., St. Louis; Atchison County—3.030 and 3.427 mi. 9-ft. conc., M. N. Penny, Lawrence, Kansas; Butler County—402 mi. 18-ft. conc., Jos. Kesi & Sons, Edwardsville, Ill.; Holt County—3.315 and 3.199 mi. 9-ft. conc., M. N. Penny; Osage County—2.893, 2.870 and 2.878 mi. 20-ft. conc., A. A. Davis & Co., Cotton-Grain Exchange Bldg., Oklahoma City; St. Louis County—2.434 mi. asphaltic conc., 2.079 mi. 40-ft. conc., Carlson Construction Co., 3516 Greenwood Ave., St. Louis; 2.472 mi. 40-ft. asphaltic conc., Skrainka Construction Co., Security Bldg., St. Louis.

In Stoddard County—750, 254, 3.482 and 4.205 mi. 18-ft. conc., Jos. Kesi & Sons; Carter County—2.858, and 2.447 mi. 18-ft. gravel, M. E. Gillon, Monett; 3.478 and .886 mi. 18-ft. gravel, Martin Wunderlich, St. Paul, Minn.; Gasconade County—3.317, 3.377 and 3.340 mi. 18-ft. gravel, Firmin T. O'Dell, Hannibal, Mo.; Monroe County—2.548 and 2.613 mi. 18-ft. gravel, Samples & Elsea, Kirksville; Morgan County—2.381 mi. 18-ft. gravel, Martin Wunderlich; Miller County—2.993 and 2.608 mi. 18-ft. gravel, Martin Wunderlich; Nodaway County—4.305, 1.350, 2.323 and 4.186 mi. 18-ft. gravel, Graham Bros., Leeds, Mo., and A. L. Cook, Ottawa, Kansas; Reynolds County—1.749 and .645 mi. 18-ft. gravel, C. P. O'Reilly Construction Co., Wainwright Bldg., St. Louis; Cape Girardeau County—3.019, 2.242 mi. 30-ft. graded earth, Bunnell & Mack, Paragould, Ark.; Henry County—3.095 mi. 30-ft. graded earth, Republic Conc. Construction Co., Republic, Mo.

In Clinton County—3.181 mi. 14-ft. chas., E. C. Johnson, Carrollton, Mo.; Dade County—2.276 mi. 16-ft. gravel, R. H. Sharp, Reeds Spring, Mo.; Harrison County—3.480 mi. 14-ft. crushed stone, Knutson Bros. Construction Co., 3520 Main St., Kansas City, Mo.; Jasper County—1.212 mi. 20-ft. conc., Koss Construction Co., Des Moines, Iowa; Cape Girardeau County—1.426 mi. 18-ft. gravel, Kiefner & Gelle, Perryville, Mo.; Scott County—2.562 mi. 18-ft. gravel, Kiefner & Gelle; Saline County—3.46 mi. 18-ft. gravel, Farrell & Dubrouillet, Linn, Mo.; DeKalb County—2.581, 2.596, 4.787, 214 mi. 9-ft. conc., Koss Construction Co.; Ray County—949 mi. 9-ft. conc., R. G. Aldridge, Kansas City, 1310 State Ave.; Adair County—1.696 and 4.568 mi. 18-ft. gravel, Shelby Construction Co., Shelby, Mo.; Crawford County—2.229 mi. 18-ft. gravel, S. J. Cohen & Co., Blytheville, Ark.; Gentry County—4.516 mi. 18-ft. gravel, C. W. Rose Construction Co., Brookfield, Mo.; Holt County—3.213 mi. 18-ft. gravel, A. L. Cook.

In Lawrence County—3.151 and 4.296 mi. 18-ft. crushed rock, Neyer Construction Co., Bloodland, Mo.; McDonald County—2.332 mi. 16-ft. gravel, C. I. Williams, Monett, Mo.; Saline County—1.820 mi. 18-ft. gravel, Farrell & Dubrouillet; Schuyler County—3.481 and 3.485 mi. 18-ft. gravel, Shelby Construction Co.; Shannon County—1.701 and 3.482 mi. 18-ft. gravel, Carte-Harlin Construction Co., Inc., West Plains; Sullivan County—2.783, 2.741 and 1.853 mi. 18-ft. gravel, Martin Wunderlich; Wayne County—.617 mi. 18-ft. gravel, S. J. Cohen & Co.; bridge, to S. J. Cohen & Co.; Carroll County—1.921 mi. 30-ft. graded earth, Mike Haase, St. Joseph, Mo.; Barton County—4.640 mi. 16-ft. chas., C. I. Williams; Bates County—3.452 and 2.671 mi. 16-ft. gravel, Chas. Gidinsky Construction Co., 4341 Benton Blvd., Kansas City; DeKalb County—3.224 and 1.011 mi. 14-ft. gravel, C. W. Rose, Brookfield; Mississippi County—1.838 mi. 12-ft. gravel, Roy L. Williams, Charleston, Mo.; Vernon County—4.792 and 2.517 mi. 16-ft. chat, O. O. Fuller, Nevada, Mo. 5-22-29

Mo., Clayton—St. Louis County, Walter E. Miller, Clk., receives bids June 25 to improve Denny road, Jennings Station road, and Grasser road; Roy Jablonsky, County Engr.

Mo., Clayton—St. Louis County, Walter E. Miller, Clk., received low bid from Webb-Boone Paving Co., 5103 Fyler St., at \$59,311, for improving North and South Road; at \$17,990 to improve Sutter Ave., both in University City.

Mo., Independence—State Highway Comsn., Jefferson City, plans paving Highway No. 24 with conc. through Independence.

Mo., Kansas City—City, Matthew S. Murray, Dir. of Public Works, received low bids totaling \$78,697 for paving and resurfacing, curbing, grading and conc. sidewalks on various streets, including Baltimore Ave., Forty-seventh St., Vineyard road; 2-in. petroleum asphaltic resurfacing, 8-in. conc.; Midwest Paving Co., 25th and Summit Sts.; F. E. McCabe, 3911 Sunrise Dr.; John Pilarski & Son, 6032 Tracy St.; Hoover Brothers Construction Co., 1300 E. 18th St.; Frank Flinn Construction Co., 85th and McGee Sts.; Hyman Spiteaufsky, 3229 Victor St.; Jerry Mangum, 2821 Independence Ave.

Mo., Kansas City—City, Matthew S. Murray, Dir. of Public Works, plans receiving bids in 10 days for paving 4 streets: Oak St. traffway, with 10-in. conc. paving, 8-in. conc. curbing; Walnut St., 2-in. asphaltic conc. on new 8-in. conc. base; College Ave. and Thirty-seventh St., each with 8-in. conc.; also 6-in. conc. curbing on College Ave.

Mo., St. Joseph—City Council considering improving 4 streets: Repaving Jule and Louis St.; pave connecting link from Third St. to Bartlett Park-Hyde Park Blvd. drive; conc. paving East Hyde Park Ave., both in South St. Joseph; Charles T. Miller, City Engr.

Mo., St. Louis—City, Bd. of Public Service, receives bids July 1 to improve Wall St., Broadway to Church road; Euclid, from Ashland to point south of Lexington St.; W. W. Horner, City Engr.

Mo., St. Louis—City, Bd. of Public Service, received low bids, totaling \$236,649, for paving 3 streets, with granite block, Warrenite bitulithic, vitrified brick; Granite Bituminous Paving & Constructing Co., Ry. Exchange Bldg., St. Louis; Eyerma Contracting Co., 1210 S. Grand Ave.; McMahon Contracting Co.; Alfred Lewald, Inc., 6025 Delmar Blvd.

N. C., Charlotte—City, R. W. Rigby, Mgr., plans widening to 60 ft. and opening 17 blocks North and South Graham St.; constructing overpass at Seaboard Air Line Ry. tracks, between West Twelfth and Thirteenth St.; erect underpass at Piedmont & Northern tracks at West First St.

N. C., Durham—City Council authorized paving Roxboro St. from Main to and through Pine St. underpass.

N. C., Greensboro—City, I. C. Brower, Mgr., plans 11,000 sq. yd. 8-in. conc. paving, including 28,000 cu. yd. excavation, West Market St., Lindell Road to Holden road, cost about \$20,000; Ray Warren, City Engr. See Financial News Columns.

N. C., Winston-Salem—City, Public Works, Committee, Harry L. Shaner, Commr., receives bids June 25 for cement conc. sidewalks on 6 streets, including Poplar, Second, West Fourth, Marshall, Waughton and Ninth.

Oklahoma—State Highway Comsn., Oklahoma City, received low bids for 4 roads and several bridges: McClain County—12.28 mi. grading, draining, U. S. Highway No. 77,

Purcell to Garvin County line, Merveldt & Lawson, Yukon, \$25,735; Tulsa and Rogers Counties—9.95 mi. grading, draining and bridges, State Highway No. 16, Collinsville to Oolagah, J. E. Smith & Son, Noble, \$67,185; Caddo County—5.04 mi. grading, draining, State Highway No. 51, Binger, east, Richards & Moorman, Tahlequah, \$37,401; bridges, to Schleiter Bridge Co., Clay Center, Kansas, \$27,307; 7.25 mi. grading, draining, State Highway No. 8 Gracemont, north, T. C. Ottinger, Hinton, \$34,591; bridges, to J. J. Harrison, Anadarko, \$13,473; bridge over Walnut Creek, on U. S. Highway No. 77, Schleiter Bridge Co., \$38,280; A. R. Losh, State Highway Engr. 5-22

Oklahoma—State Highway Comsn., Oklahoma City, receives bids June 23 for applying asphalt road oil on 26 mi. U. S. Highway No. 70, Durant to Madill, in Bryan and Marshall Counties; also receive bids for about 10 other roads: U. S. Highway No. 73, State Highway No. 20, east from Claremore; U. S. Highway No. 73, north from Pryor State Highway No. 20, Spavinaw, west to Mayes County line; State Highway No. 3, from paving west of McAlester to Calvin; U. S. Highway No. 73, Crowder to South Canadian River Bridge, near Eufaula; U. S. Highway No. 73, Calvin to county line and from Calvin to Allen; U. S. Highway No. 71, Hugo, south; State Highway No. 7, Lawton west, and from Hendrick east and west to county line; State Highway No. 8, Fort Sill reservation to Apache; A. R. Losh, State Highway Engr.

Okl., Oklahoma City—City, E. M. Fry, Mgr., considering paving north half of West Twenty-third St., Villa to May Ave.; south half from May Ave. for Grand Blvd.; considering paving Thirteenth St., Billen to Linn Ave., Forty-fourth St. and Dewey Ave.; W. W. Small, City Engr. See Financial News Columns.

S. C., Columbia—City, W. S. Tomlinson, Engr., receives bids June 24 for 10,000 cu. yd. grading, 20,300 lin. ft. curb and gutter, 14,800 sq. yd. street paving, 5,500 sq. yd. sidewalk.

S. C., Greenville—City Council, A. C. Mann, Mayor, plans paving McDaniel Ave. from C. and W. C. overpass southward to end of present paving near Cleveland; authorized paving Utility St. to Cox St.

Tennessee—Dept. of Highway and Public Works, Nashville, plans grading and rock-ing 165 mi. roads during 1930: Concord Section—15 roads totaling 15.6 mi.; Ball Camp Section—25 roads, totaling 37.3 mi.; Powell Section—33 roads, totaling 40.1 mi.; Coryton Section—30 roads, 30.8 mi.; Thorn Grove Section—14 roads, totaling 14 mi.; South of River Section—27 mi. totaling 27.5 mi.; T. E. McEwen, State Highway Engr.

Tenn., Bells—Town plans expending \$20,000 for conc. streets. See Financial News Columns.

S. C., Summerville—City receives bids July 1 for 5 mi. paving.

Tenn., Chattanooga—City, Roger Crox, Commr., plans establishing Improvement Dist. No. 7, for widening Rossville Ave. from Main St. to Central Ave.; W. H. Wilson, City Engr.

Tenn., Jackson—City, R. L. Balch, Clk., probably receive bids June 24 for 15,000 sq. yd. 6-in. conc. paving, with grading, draining, curb and gutter; E. R. Dike, City Engr.

Tenn., Knoxville—City, James A. Trent, Mayor, considering extension of Wall Ave.

Tenn., Milan—Gibson County plans expending \$500,000 for 150 mi. cross connecting road system. See Financial News Columns.

Texas—State Highway Comsn., Austin, receives bids June 24 to improve 2 highways: Hudspeth County—14.292 mi. single bit. surface treatment, Highway No. 130, from Hudspeth-El Paso County line, east; Van Zandt County—1.63 mi. drainage structures on Highway No. 64, Edom to point west; Gibb Gilchrist, State Highway Engr.

Tex., Atlanta—City receives bids June 23 for 3000 sq. yd. excavation, limestone base course and double bit. surface treatment paving, curbing, gutters on certain streets.

Tex., Beaumont—City, Paul H. Millard, Mgr., rejected bids for \$90,000 paving; lately noted Scott Shambaugh, low bidder; plans receiving bids soon. 6-12

Tex., Carthage—Panola County, James G. Strong, County Judge, plans hard-surfacing 24 mi. Highway No. 61, Dallas to Shreveport; pave Highway No. 8. See Financial News Columns. 6-5

Tex., Groveton—State Highway Comsn., Austin, receives bids June 24 for 9,173 mi. shale base course and crusher run limestone or limestone gravel second course with dou-

ble bit. surface treatment, Highway No. 106, Trinity County, from Houston County line to intersection with Highway No. 94; Gibb Gilchrist, State Highway Engr.

Tex., Houston—City, W. E. Monteith, Mayor, considering opening West Gray Ave. into Grey or Pierce Ave.; opening Brazos and Bagby St. to connect South End with downtown section; opening Irvington Blvd.; widening and improving Sawyer and Silver St. to Washington; J. M. Nagle, City Engr.

Tex., Houston—Harris County Comms., Norman Atkinson, County Judge, received low bid from Moller & Roberts, Galveston, at \$53,626, to pave South Houston-La Porte road along air line from South Houston, on Galveston road, to La Porte; Charles R. Haile, County Engr.

Tex., Houston—Harris County, Comms., Norman Atkinson, County Judge, receives bids June 30 for West Montgomery road between Tomball cutoff and Montgomery County line; receives bids soon to improve Washington Ave., Yale to Reimerman; Wallisville and Oats road; Westheimer road; Spring St. Bridge on Montgomery road; Chas. R. Haile, County Engr.

Tex., Galveston—State Highway Comsn., Austin, probably receive bids in 30 days for grading Highway No. 58, Galveston-Alvin Highway, Galveston County, Gibb Gilchrist, State Highway Engr.

Tex., Port Arthur—City, J. W. O'Neal, Mayor, receives bids in about 60 days for topping streets.

Virginia—State Highway Comsn., Richmond, receives bids July 1 for 2 roads and bridge: Augusta County—1.1 mi. macad., Route 39, from corporate limits of Staunton west; Grayson County—1.2 mi. grading, draining, Route 26, from point north of Independence, north; King William County—repair fender system of Gresham Bridge over Mattaponi River at West Point; W. R. Glidden, Highway Bridge Engr.

Virginia—State Highway Comsn., Richmond, received low bids totaling \$334,644, for 7 roads and 2 bridges: Augusta County—9 mi. one course macad., Route 39, M. T. Arthur, Johnson City, Tenn., \$54,961; Patrick County—3 mi. macad., Route 12, Robert Martin Co., Salem, \$45,221; Charlotte and Prince Edward Counties—4.75 mi. soli. Routes 20 and 32, R. J. Bennette, 2423 Greenway Ave., Winston-Salem, N. C., \$30,000; Sussex County—6.3 mi. grading, draining, Route 52, C. A. Ragland, Louisburg, N. C., \$46,426; 8.55 mi. grading, draining, Route 52, C. S. Luck & Sons, 1617 Brook Rd., Richmond, \$56,700; Augusta County—1.95 mi. one course macad., Route 39, Echols Brothers, Alderson, W. Va., \$38,334; Essex County—8 mi. grading, draining, Route 38, Sanderson & Son & Mitchell, \$32,495; Halifax County—bridge over Bannister River, Route 12, Fredericksburg Bridge Co., \$24,200; Nansemond County—bridge over Spivey swamp, Route 506; Baird & Somers, Burkeville, \$46,228; C. S. Mullen, Ch. Engr.

W. Va., St. Albans—City, O. N. Slater, Clk., receives bids July 10 for 2889 sq. yd. plain and rein. conc. paving 26 ft. wide, curb, grading, manholes, catch basin, etc., on Third St. and alleys.

W. Va., Clarksburg—City, Dr. R. L. Osborn, Mgr., plans paving this fall East Main St. from Gulf Plaza Bridge to Industrial Bridge, cost about \$47,943; Thomas Lang, City Engr.

Contracts Awarded

Ark., Conway—Hogan Construction Co., Home Insurance Bldg., Little Rock, has contract at \$95,826 for rebuilding 2 mi. State Highway No. 65 through Conway. 6-5

Kentucky—State Highway Dept., Frankfort, let contracts for 21 roads; Anderson County—10.352 mi. 18-ft. traffic-bound limestone surface, Lawrence-Bardstown road, Thos. Ruth & Co., Frankfort, \$70,805; Barren County—7.301 mi. 18-ft. rock asphalt-limestone, Glasgow-Scottsville road, Raymond Construction Co., Bowling Green, \$152,028; Breckinridge County—10.971 mi. Louisville-Paducah road, Hogkin Adams Co., Winchester, \$212,371; Carlisle County—6.884 mi. rein. conc., Bardwell-Clinton, N. E. Stone & Co., Madisonville, \$137,460; Carlisle-Ballard Counties—8.019 mi. Bardwell-Wickliffe, N. E. Stone & Co., \$160,510; Daviess County—8.342 mi. Louisville-Paducah road, Ellis, Kelly & Co., Owensboro, \$164,704; Fulton County—\$178 mi. Fulton-Clinton, Oster, Creighton Co., Fourth & First Bldg., Nashville, Tenn., \$125,784; Hancock County—13.527 mi., Louisville-Paducah, G. W. Robinson, Hart & Hart, Owensboro, \$270,471; Harlan County—17.297 mi. 16-ft. traffic-bound limestone, Harlan-Whitesburg, S. J. Boone, Lexington, \$134,420; Hart County—5.064 mi. 18-ft. rock asphalt limestone, Elizabethtown-Munfordville

Myers Bros., Campbellsburg, Ind., \$99,437.

In Hickman County—1.173 mi. grade, drain, Clinto-Bardwell, Frazer & Cock, Wilckliffe, \$28,165; Letcher County—7.957 mi. 16-ft. traffic-bound limestone, Whitesburg-Harlan, Hart Construction Co., Whitesburg, \$71,846; Logan-Warren Counties—9.758 mi. 18-ft. rock asphalt on limestone, Russellville-Bowling Green, McClellan & Campbell, Bowling Green, \$173,882; Meade County—5.453 mi. 16-ft. traffic-bound limestone, Highland Church-Paynesville, Hoke Co., Buechel, \$20,197; 11.226 mi. rock asphalt, limestone, Louisville-Paducah, Myers Bros., \$181,516; McCracken County—6.432 mi. 20-ft. rein. conc., Paducah-Mayfield, Foster, Creighton Co., \$141,555; Pike County—16.441 mi. traffic-bound limestone, Pikeville-Whitesburg, J. M. Perkins Co., Frankfort, \$146,765; Perry County—2.621 mi. grade, drain, Jeff-Blackey, Hart Construction Co., \$47,302; Pulaski County—6.501 mi. 18-ft. rein. conc. Somerset-Whitley City, W. T. Congleton Co., Lexington, \$142,803; Robertson—5.425 mi. 16-ft. traffic-bound limestone, Blue Lick-M. Olivet, J. S. Walton, Bradenburg, \$33,812; Union county—15.099 mi. 18-ft. rein. conc., Louisville-Paducah, Foster, Creighton Co.; H. D. Palmore, State Highway Engr. 5-15

Md., Baltimore—Bd. of Awards let contract to National Paving & Contracting Co., Menlo Dr. and Western Maryland R. R., \$55,152, to grade, curb and pave with sheet asphalt streets in Cont. No. 555; Nathan L. Smith, Highways Engr. 5-29

Mississippi—State Highway Comms., Jackson, let contracts for road and 3 bridges: Amite County—8.1 mi. grading and conditioning, Liberty- to Berwick road, Thomas Carey, New Orleans, La., \$82,000; Smith County—3 bridges on state trunk road, Bay Springs-Raleigh-Brandon, to J. C. Anderson & Son, Raleigh, Miss., at \$30,000.

Mississippi—State Highway Comsn., Jackson, let contract to Clark & McCaa, Jackson, at \$53,266 for 7.237 mi. state trunk road between Corinth, Miss., and Memphis, from Tiptah County to Benton County line. 6-5

Miss., Boyle—Town, H. G. Smith, Clk., let contract to Sullivan, Long & Hagerty, Bessemer, Ala., at \$35,178, for 22,000 sq. yd. rock asphalt street paving; work to start July 1. 5-15

Miss., Columbus—City let contract to Powers Construction Co., New Orleans, La., and Gulfport, Miss., at \$18,480, for conc. paving, curb, gutter, grading and storm sewers on Ninth St.; J. P. Bicknell, City Engr.

Miss., Hazlehurst—City Council let contract to Cobb Brothers Construction Co., for paving Georgetown St.

Miss., McComb—City, X. A. Kramer, Mayor, let contract to Merrill Engineering Co., Lamar Bldg., Jackson, at \$1.15 per sq. yd. for 5445 sq. yd. conc. sidewalks; 92 cents per lin. ft. for curb and gutter; at 45 cents per cu. yd. for 8300 cu. yd. excavation; Henry A. Mentz & Co., Const. Engrs., Hammond. 5-15

Mo., St. Louis—Perkinson Bros. Construction Co., 3237 Carter St., have contract to pave various streets in Northampton Park; work to start at once.

S. C., Charleston—Charleston County Sanitary & Drainage Comsn., E. D. Jervey, Engr., let contract to Simons-Mayrant Co., Peoples Bldg., for sidewalk on Meeting St. Clements' Ferry road to King St. intersection.

Tennessee—Dept. of Highways and Public Works, Nashville, let contracts for 9 roads and 6 bridges totaling \$1,329,260: Anderson County—7 mi. paving, Highway No. 9, Murray Construction Co., 1508 Union Ave., Knoxville, \$19,488; Lawrence County—5.9 mi. Highway No. 15, Municipal Paving & Construction Co., Independent Bldg., Nashville, \$170,087; Jackson County—3 mi. grading, draining, Highway No. 53, Marlon Construction Co., Lebanon, \$102,015; Madison County—11 mi. paving Highway No. 5, Boyer & Johnson, Henderson, Tenn., \$217,010; Hickman County—13 mi. paving, Highway No. 100, Wm. F. Bowe, Jr., 1540 Reynolds St., Augusta, Ga., \$344,033; Hamilton County—4 mi. paving Highway No. 29, Murray Construction Co., \$83,335; Tipton County—18.6 mi. grading, draining, Highway No. 59, Dicus Brothers, Waynesville, N. C., \$11,503; 5 steel and timber bridges, C. E. Snyder & Co., Ripley, Tenn., \$35,230; Shelby County—6.1 mi. grading, draining, paving, Highway No. 57, W. R. Aldrich & Co., Dyersburg, \$148,474; Hardin-Wayne Counties—8.4 mi. grading, draining, State Highway No. 69, Steele Co., Albertville, Ala., \$59,552; steel and conc. bridge, Ed. Hardy & Son, Pulaski, \$38,528; T. E. McEwen, State Highway Engr. 5-29

Tex., Beaumont—City, Paul H. Millard, Mgr., let contract to Scott Shambaugh, 1401 Dowling St., Houston, at about \$29,000 for paving Euclid St.; R. C. Black, City Engr.

Tex., Dallas—Dallas County Comms., Court, Charles E. Gross, County Auditor, let contract to Central Bitulithic Co., Praetorian Bldg., Dallas, at \$103,289, for 4 mi. conc. paving, Mocking Bird Lane, from Airline road to White Rock Lake, 20 ft. wide; Rollins & Clinger, Dist. Engrs. 5-22

Tex., Houston—Harris County Comms., Norman Atkinson, County Judge, let contract to Brown & Root, Norwood Bldg., Austin, at \$139,377, for about 3 mi. conc. paving, asphalt surface, Baytown-Pelly-Goose Creek road. 5-1

Tex., Marshall—City Comsn. let contract to Fry Brothers, Iola, Kansas, at \$235,015, for about 5 mi. paving, 84,000 sq. yd. 5-15

Tex., Pasadena—B. P. Panas, General Contractor, Esperson Bldg., Houston, started work on 2 mi. shell highway, from La Porte road to site of \$500,000 plant of Davison Chemical Corporation on Ship Channel, below Pasadena, and 2 mi. railroad from Port Terminal to site; total cost about \$50,000.

W. Va., Charleston—Kanawha County Court, R. N. Moulton, Clk., let contract to M. J. Smith, 1010 First Ave., for sidewalks on Patrick St. bridge approach; Conrad M. Ross, County Engr. 6-5

W. Va., Fayetteville—State Road Comsn., Charleston, let contract to Price Construction Co., 2702 3rd Ave., Huntington, at \$168,002, for 6 mi. grading, Hico-Camp Look-out road, Fayette County; C. P. Fortney, Chmn. 6-12

Sewer Construction

Sewer construction in LAND DEVELOPMENT projects involves the expenditure of large sums of money. Under that classification details of these improvements are reported.

Ala., Montgomery—City receives bids July 1 for materials, labor and construction southern outfall sanitary sewer No. 2. See Want Section—Bids Asked.

Ark., Augusta—W. F. Moody Co., A. O. U. W. Bldg., Little Rock, has contract for pump pit and sewerage system. 6-12

Ark., Hot Springs—City, Leo P. McLaughlin, Mayor, having survey made by H. S. Moreland, City Engr., for sewage improvements. 6-5

Ga., Vienna—City votes June 25 on \$15,000 water and sewer bonds.

Ky., Ashland—Barstow & McCurdy, Inc., have contract to design sewage treatment plant and to supervise construction.

Ky., Louisville—Comms. of Sewerage will have specifications completed June 23 and will open bids July 8 on Middle Fork trunk sewer in Cherokee Park; cost \$100,000.

Md., Baltimore—Bd. of Estimates authorized Milton J. Ruark, Sewerage Engr., to install and design sewerage system and treatment works, Fort Smallwood; cost not decided; will open bids July 2 for storm water drainage system in Loch Raven and adjacent thoroughfares in Roland Park-Montebello district; estimated cost \$60,000.

Md., Baltimore—Angelozzi Construction Co., White & Belle Vista Aves., constructing sanitary sewers and storm drains, Storm Water Contr. No. 146. 4-24

Miss., Columbus—See Roads, Streets, Paving.

Miss., Greenville—City has plans by Frank Hall, City Engr., for extension of sewer system; construct brick and steel pumping station, 25 ft. sq.; soon call for bids.

Miss., Hazlehurst—Cobb Bros. Construction Co. has contract for sanitary sewer. 5-29

Mo., Lebanon—City votes July 29 on \$80,000 sewer bonds. 5-29

Mo., Joplin—City, D. C. Schnick, Commr. of Street, soon begin work on first unit of proposed sewer system in Central Addition; later plans unit in West Joplin.

Mo., St. Louis—Streets Committee of Bd. of Aldermen approved ordinance providing for use of bond funds for construction Moline Creek public sewer in extreme North St. 6-12

Mo., Wyatt—Riley Contg. Co., 110 N. Seventh St., St. Louis, reported, has contract at \$14,701 for drainage system for Wyatt and vicinity.

Okla., Geary—See Water Works.

Okla., Lawton—City, F. E. Lawrence, Engr., plans sewers and widening Squaw Creek; cost \$50,000.

Okla., Oklahoma City—H. B. Derr, 408 E. 12th st., reported, has contract for sewers in Third Stockyards, Addition.

S. C., Greenville—City soon receive bids for installing sewers in various sections of city; L. B. Clardy, Chmn. of Sewer Committee. 3-22

S. C., Pelzer—Pelzer Mfg. Co., New England Southern Mills Corp., install sewerage facilities in 1000 dwellings in textile village; cost \$250,000.

Tenn., Bells—Town votes July 7 on \$20,000 sewer bonds.

Tenn., Brownsville—City votes July 8 on sewer bonds.

Tenn., Chattanooga—City receive bids June 27 for Brainerd and Missionary Ridge sewers; will probably construct lateral line with city forces.

Tenn., Nashville—W. J. Broderick, 407 Monroe St., reported, has contract for clay pipe sewer in various streets.

Tex., Beaumont—Scott-Shambaugh, 1401 Dowling St., Houston, reported, has contract at \$28,976 for installing sewers Kenneth, Victoria and Euclid Sts. and Sabine Pass Ave.

Tex., Houston—Oliver United Filters, Inc., 33 W. 42nd St., New York, reported, has contract at \$52,000 for filters at North Side sewage treatment plant.

Tex., Houston—Elder Construction Co., 4714 Jack St., has contract at \$34,514 for sewers along Washington St.; McLendon & Green, at \$5192 for sewers on San Felipe St.; J. M. Nagle, City Engr. 6-12

Tex., LaPorte—City plans selling \$100,000 bonds for improvements, including \$70,000 for sanitary sewers and disposal plant; \$15,000 for extension water works system. 11-7

Tex., New Braunfels—City, H. A. Triesch, Mayor, plans expending \$15,000 for storm sewers; R. S. Jahn, City Engr.

Tex., Port Arthur—T. L. James & Co., Inc., Ruston, La., low bidders at \$170,000 on Thomas Blvd. storm sewer. 6-22

Va., Rosslyn—Arlington County defeated \$2,173,000 sewer bonds. 5-15

W. Va., Huntington—City, Fred E. Reed, Jr., Commr. Street, receives bids June 23 for sanitary sewer in Woodmont Rd. See Want Section—Bids Asked.

Telephone Systems

Fla., West Palm Beach—Southern Bell Telephone & Telegraph Co., Atlanta, Ga., let contract to Barge-Thompson Co., 136 Ellis Ave., N. E., Atlanta, Ga., for \$100,000 fifth story addition to building, Fern St.; Western Electric Co., New York, to install equipment.

Ky., Louisville—E. J. Whalen Steel Construction Co., 10th & Lee Sts., reported, has contract for 440 tons rein. steel for building of Southern Bell Telephone & Telegraph Co., Hurt Bldg.; Barge-Thompson Co., Gen. Contr., 136 Ellis St., N. E.; Marye, Alger & Vinour, Archt., Walton Bldg., all Atlanta, Ga.

Md., Dundalk, Baltimore—Chesapeake & Potomac Telephone Co., Standard Oil Bldg., let contract to Frainie Bros. & Halsey, 19 W. Franklin St., for \$40,000 exchange; 2 story, brick; Taylor & Fisher, Archts.; C. L. Reeder, Mech. Engr., 916 N. Charles St.

Mo., Dexter—South East Missouri Telephone Co., L. D. Gimmer, Asst. Plant Supt., acquired site for telephone building, Locust St.

N. C., Selma—American Telephone & Telegraph Co., J. J. Pilliod, Engr., 15 Dey St., New York, advises building project here has been indefinitely postponed. 6-5

Okla., Enid—Southwestern Bell Telephone Co., Telephone Bldg., St. Louis, erect telephone building.

Tex., Borger—Southwestern Bell Telephone Co., St. Louis, L. H. Johnson, Local Mgr., acquired site for exchange building; plans starting work soon.

Tex., Fort Worth—S. A. T. Broadcast Co., Ft. Worth National Bank Bldg., changing name to K. T. A. T. Broadcast Co., Inc.

Tex., Pharr—Rio Grande Valley Telephone Co., R. H. Rushing, Mgr., let contract to R. W. Briggs Construction Co., Pharr, for \$10,000 telephone building, Main St.; brick, tile; install automatic system. 6-5

Tex., San Antonio—Following have sub-contracts in connection with 8-story administration and equipment building of Southwestern Bell Telephone Co., I. R. Timlin, Archt., Telephone Bldg., St. Louis, Mo.; Elec. wiring, Wright Bros., 405 Main St.; orna. iron and bronze, Alamó Iron Works, 130 Santa Clara St.; metal lath, R. F. Mullineaux, Builders Exchange Bldg.; roofing and sheet metal, Eagle Sheet Metal Works, 607 Nogalitos St.; McKenzie Construction Co., Gen. Contr., Smith-Young Tower; W. J. Knight & Co., Engr., Wainwright Bldg., St. Louis, Mo. 5-29

Textile Mills

S. C., Pelzer—See Sewer Construction.

Tex., Houston—Mente & Co., Inc., 1430 S. Peters St., New Orleans, reported, erect \$10,000 addition to plant; manufactures burlap and bagging.

Va., Stuart—I. C. DeHart, reported, acquired Stuart Mills, Inc.; will operate.

Water Works

Details of water works improvements in connection with the many LAND DEVELOPMENT operations will be found under that classification.

Ala., Auburn—City ratified sale of water plant to Alabama Power Co., Birmingham. 5-22

Ala., Gadsden—City plans laying 6-in. water mains from Alabama City 8-in. mains on Central Ave. to new plate and sheet mills of Gulf States Steel Co.

Ga., Vienna—See Sewer Construction.

La., Shreveport—City, reported, let contract to Central Foundry Co., Commercial Bldg., Birmingham, Ala., for pipe and valves for installation water line to Municipal airport; Wessell & Co., 719 Milam St., Shreveport, for laying pipe. 6-12

Md., Baltimore—Consolidated Engineering Co., 20 E. Franklin St., has contract at \$129,700 for Mount Vernon pumping station. 6-12

Mo., Cape Girardeau—Missouri Utilities Co., subsidiary of Community Power & Light Co., Planters Bldg., St. Louis, submitted plans to city for water filter plant and intake at Cape Rock.

N. C., High Point—City receives bids June 24 for water and sewer improvements. See Want Section—Bids Asked.

Okla., Bartlesville—City will build \$40,000 reservoir, capacity 400,000 gal.

Okla., Geary—City voted water and sewer bonds. See Financial News Column. 5-22

Tenn., Loudon—Kelly & Wilson, Jackson Bldg., Asheville, N. C., reported, have contract at \$60,000 for complete water works system; receives bids June 24 for power house. 6-5

Tenn., Nashville—Bd. of Water Comms. lay 5 mile water mains in annexed territory; cost \$32,000.

Tex., Abernathy—Texas Utilities Co., Plainview, reported, let contract to Harrison & Smythe, Plainview, for 1 story, \$150,000 power plant.

Tex., Denton—Denton Construction Co., has contract for reservoir settling basin and pump house. 5-22

Tex., Donna—John E. Sutherland Co., New Orleans, La., reported, negotiating for water works.

Tex., Houston—American Cast Iron Pipe Co., Birmingham, Ala., reported, has contract at \$27,000 for pipe connecting East End water plant with Harrisburg and Park Place and to replace old mains ahead of construction underpass Houston Ave. 5-8

Tex., El Paso—City receives bids July 26 for 4,000,000 gal. storage reservoir in Rosemont Addition.

Tex., Port Arthur—T. L. James & Co., Ruston, La., low bidder at \$170,000 for Thomas Blvd. storm sewer. 5-22

Woodworking Plants

Ga., Macon—Wood-Peavy Furniture Co., E. B. Durham, Pres., formed by merger of Wood-Peavy Furniture Co. and Durham Furniture Co.

Tenn., Jackson—Capps Casket Co., D. R. Capps and V. Ashby, recently organized, soon start erecting plant to manufacture caskets and vaults. 5-29

W. Va., Clarksburg—West Penn Mfg. Co. being formed by merger of Fuel City Box Co. and Clarksburg Furniture & Mfg. Co.; plants may be enlarged.

FIRE DAMAGE

Ala., Dothan—Alto Barnes Lumber Co.'s retail storage and office plant; loss, reported, \$700,000.

Ark., Little Rock—F. W. Woolworth & Co.'s store, Fourth and Main Sts.

Ark., Little Rock—Majestic Theatre on Main St.; loss \$200,000; address The Owner.

D. C., Washington—Rudolph & West's store, 1300 block New York Ave.; loss \$300,000.

Ga., Atlanta—Edward H. Inman's building, 212-14 Mitchell St., occupied by Music Shop, Edmondson Barber Supply Co., and T. N. Paris Co.; loss \$25,000.

Ga., Millen—Turner Lumber Co.'s plant; loss \$125,000.

Ky., Leitchfield—Grayson Springs Hotel. Md., Baltimore—M. J. Swift Burlap Bag Co.'s plant, Wayside and Thompson Sts.

Miss., Bay St. Louis—Claud Monti's garage and filling station, Union and Hancock St.; loss \$20,000.

Miss., Derma—Derma Drug Co.'s building, Aycock & Howard Grocery Co.'s store; A. J. Courtney's store; loss \$14,500; A. B. Myers' residence; loss \$15,000.

Miss., Macon—Edmonds Planing Mill.

Miss., Vicksburg—Reeve Bldg., occupied by Stribling Motor Co.; Tom Morrissey's building, occupied by Melshelmer's garage.

Mo., Conway—Farmers' Bank Bldg.; loss \$25,000.

Mo., St. Louis—Independent Quarry & Construction Co.'s warehouse, 3684 Chateau Ave.; loss \$25,000.

N. C., Dover—Goldsboro Lumber Co.'s sawmill; W. B. H. Blandford, Mgr.

N. C., Mount Tabor—Cannon Klutz Lumber Co.'s plant.

Okla., Grandfield—Hayes Bakery; C. C. Lear Cleaning Shop; C. W. Gerner's dry goods store; W. F. Ison Dept. Store; Rexall Store; loss \$80,000.

Okla., Oklahoma City—Portion of mill of Oklahoma City Mill & Elevator Co., First St. and Francis Ave.

Tenn., Knoxville—Little River Creamery Co.'s dairy barn, Maryville Pike, 6 mi. from here; loss \$20,000; James N. Haddox, owner.

Tenn., Signal Mountain—Gray Gentry's residence; loss \$10,000 to \$15,000; address owner, care O. B. Andrews Co., Lookout Mountain, Tenn.

Tex., Kingsbury—First National Bank Bldg.; Kingsbury Drug Co.; J. A. Lynch & Co.'s mercantile building.

Tex., Llano—Mrs. Robert Schneider's laundry, recently leased to C. A. Bussell, Houston.

Tex., Marshall—C. E. Williams' grocery and meat market on W. Austin St.

Tex., Port Arthur—Texas Co.'s refining plant; loss \$500,000.

Tex., Teague—Allen Bull's home, barn and smokehouse near Teague.

W. Va., McNeil—Riverside Poultry Farm's hatchery, packing house and storage room.

W. Va., Salem—Paramount window glass plant, East Salem; loss \$10,000; A. J. Boyles, 109 N. Sixth St., Clarksburg, owner.

BUILDING NEWS

BUILDINGS PROPOSED

Association and Fraternal

Fla., St. Petersburg—L. M. Tate Post, Veterans of Foreign Wars, J. W. Davis, Chmn., Bldg. Comm., plans building.

Fla., Tallahassee—Claude L. Sauls Post, American Legion, C. L. Waller, Comdr., plans clubhouse; gymnasium, swimming pool.

Fla., Tampa—Young Women's Christian Assn. erect \$100,000 bldg., Twiggs and Morgan Sts.; brick and stone, 4 stories, reception rooms, cafeteria and kitchens on first floor; club rooms and executive offices on second; accommodations for 54 women above; work start within few weeks; financing by bonds and subscription.

Ky., Ashland—First Presbyterian Church plans to remodel auditorium and erect additional story to Sunday school; new heating plant; auditorium seat 130 additional; \$22,500; H. N. Foster, Archt.

136 Ellis St., N. E.; Grahn Construction Co., Red Rock Bldg.; Carr Construction Co., Candler Bldg.; Brasell & Miller, Norris Bldg.; A. K. Adams & Co., 542 Plum St., N. W.; Griffin Construction Co., 452 Spring St., N. W., all Atlanta; John M. Geary Co., Arcade Bldg., Asheville, N. C. 5-15

Ky., Ashland—First Presbyterian Church plans to remodel auditorium and erect additional story to Sunday school; new heating plant; auditorium seat 130 additional; \$22,500; H. N. Foster, Archt.

La., Hammond—Methodist Church plans building.

La., New Orleans—Our Lady Star of the Sea R. C. Church, Rev. Jos. A. Levesque, Pastor, ready for bids early in July for rein. conc., struct. steel, brick and stone bldg., N. Frier and N. Johnson Sts.; \$150,000, rein. conc. and pile foundation, tile roof, plastered interior, vacuum steam heat; Wogan & Bernard, Archts., Canal Bk. Bldg. 4-17

Md., Baltimore—St. Josephs Monastery, 3600 block Frederick Ave., having plans drawn by H. J. Kavanaugh, Archt., 913 N. Calvert St., for \$500,000 church; stone, 1 and 3 stories; preliminary plans only. 2-27-29

Md., Sparrows Point, Baltimore—Rev. Russell Garr, Pastor, Sparrows Point Presbyterian Church, in charge of plans for bldg. for church to be organized at Lodge Forest near Sparrows Point.

N. C., Lenoir—Presbyterian Church organized; erect bldg. at Fairview school house near Lenoir.

Okl., Oklahoma City—University Place Christian Church, Freeman B. Van Horn, Chmn., Bldg. Comm., call for bids during July for \$250,000 bldg.; Colonial type, 3 stories and basement, about 135x115 ft.; Sunday school 45x115 ft.; Walter Vahlberg, Archt., Braniff Bldg. 5-22

S. C., Columbia—First Baptist Church, W. J. McGee, Chmn., Bldg. Comm., 1803 Hampton Ave., received bids June 16 for brick and tile Sunday school; limestone trim, steel frame, rein. conc. floor slab, steel truss roof, 3 stories and part basement, 182x91 ft.; accommodate about 1300; furnishings, equipment, etc., \$5000; Lafaye & Lafaye, Archts., 1224 Sumter St. 4-17

S. C., Lyman—Methodist Church let contract in few days for \$20,000 bldg., Ridge Rd.

S. C., Spartanburg—Central Methodist Church remodel auditorium and erect Sunday school addition; brick, 2 stories and basement; Chas. Wm. Fant, Archt., 121½ N. Main St., Anderson; Carlisle & Freeman, Asso. Archts., 110½ Kennedy Place, Spartanburg; bids in.

Tenn., Clarksdale—Second Baptist Church, 319 High St., Rev. E. H. Greenwell, Pastor, plans bldg., Highway No. 48, South Clarksdale.

Tenn., Knoxville—Arlington Baptist Church, Nicholas McHan, Chmn., Bldg. Comm., start work in about 2 weeks on \$10,000 first unit of \$30,000 bldg., Fairmont Blvd. near Powers Ave.; auditorium seat 650, Sunday school accommodate 750; plans by P. E. Burroughs, 161 Eighth Ave., Nashville. 3-27

Tenn., McKenzie—First Baptist Church, Rev. Jas. H. Oakley, Pastor, erect brick church and parsonage.

Tex., Taylor—First Methodist Church, Dr. Y. F. Hopkins, Chmn., Bldg. Comm., erect \$20,000 Sunday school, Fifth and Talbot Sts.; brick, 3 stories, 34x78 ft.; main auditorium later. 12-5

City and County

Ark., DeQueen—Sevier County, J. C. Arnold, County Judge, probably let contract in about week for \$95,000 courthouse and \$45,000 jail; J. B. Langford, Lockesburg, has contract to raze present courthouse; brick, stone and conc., 3 stories and basement, and brick and conc., 2 stories; Witt, Selbert & Halsey, Archts., Texarkana Natl. Bk. Bldg., Texarkana, Ark.-Tex. 4-24

Ala., Montgomery—City, W. A. Gunter, Mayor, erect 1-story brick fire station, Fairview Ave.; \$10,000; Howard Ausfeld, Archt., Shepherd Bldg.

Md., Baltimore—Enoch Pratt Free Library, Wm. J. Baker, Jr., Pres., Bd. of Trustees, expect to have plans ready about July 1

for central bldg., Cathedral, Mulberry and Franklin Sts.; Chas. F. Goob, City Engr., will confer with Mr. Baker with view to award contract for razing structures on site; Classic type, buff limestone, 3 stories and basement, 150x292 ft., 3 book stack levels in basement, steel stacks to hold about 1,500,000 volumes; structure, with equipment, cost about \$2,400,000; Clyde N. & Nelson Friz, Archts., Lexington Bldg., Baltimore; Edw. L. Tilton and Alfred Morton Githens, Consult. Archts., both 141 E. 45th St., New York; C. L. Reeder, Mech. Engr., 916 N. Charles St.; H. F. Doelman, Struct. Engr., 516 N. Charles, both Baltimore. 4-3

Md., Rockville—Montgomery County Bd. of Commrs., Berry E. Clark, Clk., receives bids July 10 for limestone courthouse and jail bldg.; \$425,000, monolithic columns, marble entrance hall, tile, cork and asphaltum floors, mahogany finish birch woodwork, probably walnut in courtroom, screening and windows of metal, 20 elect. clocks, vapor heat; jail accommodate about 30; Delos H. Smith, Archt., care Smith & Edwards, 1207 First St., N. W., Washington, D. C.; Capt. Chester A. Wells, member, Montgomery County General Courthouse Building Comsn. 6-12

Miss., Laurel—Mayor W. M. McLaurin and Bd. of Commrs. receive bids June 23 for office bldg., poultry, horse, cattle and hog barns; plans on file at City Hall and may be had from L. W. Duffee, Archt., O'Ferrall Bldg.

Mo., Jefferson City—Cole County Court probably call election in Nov. on jail bonds; plans for \$85,000 bldg. submitted by LeRoy Parrish, Archt.

Mo., Kansas City—City start preliminary work during June toward erection of \$1,000,000 William Rockhill Nelson Gallery of Art; Wight & Wight, Archts., First Natl. Bk. Bldg. 8-8

Mo., Nevada—Vernon County Bd. of Commrs., J. V. Edmondson, Clk., considers erecting \$25,000 jail; brick, 1 story.

N. C., Greensboro—City, I. C. Brower, City Mgr., considering erecting armory, Bagley St.; Ray Warren, City Engr.

N. C., Wilmington—New Hanover County Grand Jury recommends erection of juvenile detention home.

Okl., Watonga—City erect \$40,000 city hall after plans by R. W. Shaw, Enid; brick, 2 stories; bids June 17. 5-22

Tex., New Braunfels—Comal County votes again July 19, because of technicalities, on \$100,000 bonds to remodel courthouse and erect jail; bids to be called for after election; face brick, hollow tile, rein. conc. and cast stone, 3 stories and basement, 87x29 ft., built-up roof, elevator; Jeremiah Schmidt Archt., New Braunfels; W. E. Simpson Co., Engr., Milam Bldg., San Antonio 4-24

Dwellings

Ark., Hot Springs National Park—J. S. Stell erect \$10,000 Colonial residence; brick veneer, 2 stories, 30x60 ft., hardwood floors, tile bath, wood shingle roof; Elmer A. Stuck, Archt., Boyle Bldg., Little Rock; soon ready for bids.

Ark., Little Rock—Sun Building & Development Co., 19 Edgehill Rd., erect \$15,000 dwelling, 4 Armistead Rd.

Ark., Little Rock—G. M. Craig, Gazette Bldg., erect brick and stucco residence; 2 stories, hardwood floors, tile bath, comp. or tile roof; Jack G. Wiggins, Rector Bldg.; reviving plans.

Ala., Tuscaloosa—Edw. Rosenfield erect brick veneer residence; 2 stories, 50x55 ft., comp. roof, hot air heat; Wm. Leslie Welton, Archt., Amer. Tr. Bldg., Birmingham.

Fla., Boca Grande—Donaldson Clark, Boca Grande, and 955 Lexington Ave., New York, erect \$15,000 residence; stucco and tile; Nat. Gaillard Walker, Archt., 1127½ First St., Fort Myers, Fla.; plans about July 15.

Fla., Boca Grande—E. T. Stuart, Boca Grande and 2133 St. James Ave., Philadelphia, Pa., erect \$10,000 frame residence; 2 stories; Nat. Gaillard Walker, Archt., 1127½ First St., Fort Myers, Fla.; plans about July 15.

Fla., Clearwater—Eugene Pierce considers erecting \$25,000 residence; architect not selected.

Fla., Clearwater—John Paul Jones, care Jonsberg & Wakeling, Archts., Conchmen Bldg., Clearwater, and Times Bldg., St. Petersburg, remodel and enlarge residence; \$12,000; frame, 2 stories.

Fla., Homosassa—Wm. Locke, Archt., St. Petersburg, completed preliminary plans for \$25,000 dwelling; stucco and hollow tile.

Bank and Office

Ga., Adel—Sowega Watermelon Growers Assn., care J. J. Farish, open bids about Aug. 15 for \$60,000 office bldg.; rein. conc., tile and brick, 3 stories, 75x50 ft., terrazzo floors, conc. foundation, tile roof deck; Daniel & Beutell, Archts., Georgia Sav. Bk. Bldg.; Robt. Fiske, Engr., Healey Bldg., both Atlanta. 6-5

Md., Baltimore—J. A. W. Iglehart & Co. remodel bldg., St. Paul and Fayette Sts.; first floor to be occupied by owners; new elevators; Palmer & Lamdin, Archts., 513 N. Charles St.; plans not drawn.

Mo., St. Louis—Mercantile-Commerce Bk. & Trust Co. organized Mercantile-Commerce National Bank; ground floor of Pythian Bldg., Grand and Delmar Bldgs., to be remodeled for quarters.

Tenn., Memphis—Overton Estate, Wm. White, Agts., City Savings Bank Bldg., erect additional story to bldg., Third St. and Union Ave., occupied by Memphis Builders' Exchange.

Va., Richmond—Federal Reserve Bank of Richmond, Geo. W. Seay, Gov., receives bids June 24 at office Taylor & Fisher, Archts., 3100 Baltimore Tr. Bldg., Baltimore, Md., for \$700,000 to \$800,000 addition, Ninth and Franklin Sts.; 70x120 ft., connected with present bldg. by colonnade; following contractors estimating: Wise Granite & Construction Co., Amer. Bk. & Tr. Bldg.; John T. Wilson Co., Mutual Bldg.; Doyle & Russell, Grace-American Bk. Bldg.; John W. Cowper Co., Inc., State Planters Bk. Bldg., all Richmond; J. Henry Miller, Inc., Eutaw and Franklin Sts.; Consolidated Engineering Co., Inc., 20 E. Franklin St., both Baltimore, Md.; Geo. A. Fuller Co., Munsey Bldg.; James Baird Co., 1800 E St., N. W., both Washington, D. C.; J. A. Jones Construction Co., Commercial Bk. Bldg., Charlotte, N. C.; J. R. Jones & Conquest, Inc., Amer. Bk. & Tr. Bldg., Richmond. 6-12

Churches

Fla., Tallahassee—Protestant Episcopal Diocese, Frank A. Juhan, Bishop, Duval St., Jacksonville, erect \$35,000 auditorium; brick, stone trim, 1 story and part basement, conc. footings, seat 400; H. C. Dozier, Archt., Jacksonville.

Ga., Emory University—Emory University receives bids July 1 for \$250,000 Glenn Memorial Church, N. Decatur and Oxford Rds., N. E.; Colonial type, fireproof, rein. conc., struct. steel, brick, Indiana limestone, hollow tile, fire resisting, 1 story, balcony and basement, 80x130 ft., floors of cement, wood, cork, etc., conc. foundation, slate roof; Hentz, Adler & Schultze, Archts., Candler Bldg.; following contractors estimating: Norwood Griffin Co.; J. A. McCauley Co.; Geo. A. Clayton Co.; Shelverton Construction Co., all Bona Allen Bldg.; Southern Ferro concrete Co., 70 Ellis St., N. E.; Barge-Thompson Co.,

Fla., Jacksonville—Alfred I. du Pont, Pres., Florida National Bank, remodel and erect additions to residence, Epping Forest, Southside; \$12,000; add several rooms, build terrace; changes to sunken garden.

Fla., Miami Beach—F. O. Van Deren, 729 Lincoln Rd., rejected bids for residence, Rivo Alto Island; revising plans; \$25,000, conc. block and rein. conc., 2 stories, tile and oak floors, tile roof; Henry LaPointe, Archt., Huntington Bldg., Miami. 6-5

Fla., Miami Beach—Richard Massey, 2374 N. Bay Rd., will not let contract until Fall for music room addition to residence; Klehnel & Elliott, Archts., Seybold Bldg.; low bid at \$14,750 from Continental Construction Co., 1655 Lenox Ave. 5-29

Fla., Winter Park—C. G. Turner started work on \$16,000 residence, Charming; Spanish type; work under supervision of Jas. F. Wellman. Address Mr. Wellman.

Ga., St. Simons Island—Martin Bernstein erect 2-story frame residence, Mallory and Hawkins Sts., St. Simons Park.

Ga., St. Simons Island—Mrs. Wm. B. McKinnon, Milledgeville, erect 2-story residence; W. Kenyon Drake, Archt., Jacksonville, Fla.; bids in.

Ky., Louisville—U. S. Engineer Office receives bids July 11 for 9 lockkeepers' dwellings, Lock and Dam No. 43, Ohio River.

La., Deland—Erskine Mahais erect residence; Maurice E. Kressly, Archt., Smith Bldg., Orlando; drawing plans.

La., Monroe—John L. Madden, Bernhardt Bldg., erect 1-story residence, N. Fifth St., near Rochele Ave.; brick veneer or frame, 7 rooms; J. W. Smith & Associates, Archts.; receiving bids.

La., New Orleans—Dr. Rawley M. Penick, 2700 Coliseum Ave., ready for bids for brick veneer and limestone trim bldg., Metry Club Gardens; Georgian type, 2 stories, 30x60 ft. slate roof, organ. iron work, steam heat, oil burners, 2-car garage; Lockett & Chachere, Archts., Balter Bldg.; bids by invitation.

La., New Orleans—H. Bourgeois, DeSoto Hotel, ready for bids in about 2 weeks for raised brick veneer residence, Metry Club Gardens; 45x60 ft., tile roof, tile baths, steam heat, hot water heaters; Lockett & Chachere, Archts., Balter Bldg.; bids by invitation. 5-8

La., New Orleans—Albert Duncan, 2010 Louisiana Ave., erect bungalow, Planters St. near Gentilly Blvd.

La., Slidell—J. Mossler erect 1-story residence; Weiss, Dreyfous & Seiferth, Archts., Maison Blanche Bldg., New Orleans.

Md., Baltimore—Blanchard Randall, Jr., Melvale, Md., remodel Ruscombe House, Ruscombe Lane near Green Spring Ave.

Md., Baltimore—Mrs. Fannie W. Taylor plans 2½-story stone residence, 1103 Harrison Rd., Poplar Hill.

Md., Baltimore—H. Lee Johnson, St. Johns Rd., Ellicott City, plans Colonial residence, Ridgeway Rd., Graham Place.

Mo., Kansas City—Gottlieb Minkin, 5603 Rockhill Rd., erect \$10,000 residence, 816 W. 58th St. Terrace.

Mo., Kansas City—A. K. Simpson, care Simpson Building Co., 109 E. 67th St., erect 2 English type bungalows, Gladstone Blvd. near Askew Ave.

Mo., Kansas City—E. A. Taylor, Sec., Mission Oil Co., 900 Land Bank Bldg., purchased homesite, 800 W. 68th St. Terrace, Romanelli Gardens.

Mo., Kansas City—J. W. Anderson, care Sheffield Steel Corp., Sheffield Ave., purchased homesite, 1810 Verona Terrace, Mission Hills.

Mo., St. Louis—Raymond S. Davis, care Klingensmith & Grover, Archts., 1217 Louderman Bldg., erect brick residence, Moorlands Park; 2 stories and basement, about 27x38 ft.; bids in.

Mo., St. Louis—John B. O'Day, 6231 Rosebury Ave., erect brick residence, S. Clayton Rd.; 2 stories and basement; Beverly T. Nelson, Archt., Chemical Bldg.; drawing plans.

Mo., St. Louis—Edw. J. Gieseler, Archt., 42 DeMenil Bldg., has low bid from J. A. Pahl, 5521 S. Grand Ave., for brick dwelling, 8156 Audrain Ave., Bel Nor; 1 story and basement, 50x35 ft.

Okla., Oklahoma City—A. A. Park, 2309 W. 17th St., erect \$12,000 residence, 700 E. 17th St.; brick veneer, 2 stories; W. J. Laws & Co., Archts., First National Bank Bldg.; completing plans.

Okla., Oklahoma City—Dr. R. S. Love, Medical Arts Bldg., erect \$10,000 residence; brick veneer; W. J. Laws & Co., Archts., First National Bank Bldg.; plans completed.

S. C., Aiken—Geo. Bourne remodel and erect addition to residence; \$15,000, frame, 2 stories and basement, comp. roof; Willis Irvin, Archt., S. F. C. Bldg., Augusta, Ga.; soon complete plans.

S. C., Greenville—H. J. Martin, Clarendon Ave., has permit to remodel residence, 111 Broadus Ave.; \$17,500.

S. C., Hardeeville—Arthur Corlies, 60 Broad St., New York, having plans drawn by Henrik Wallin, 8 Anderson St., Archt., Savannah, Ga., for winter residence and hunting lodge, Maurice Plantation near Hardeeville; Georgian Colonial type, brick, 2-story columns, living room paneled in cypress, green slate roof, 4 baths, 3-car garage, tool shop and power plant; supt.'s cottage, stables, kennels, servants' cottages; well being drilled; soon call for bids.

Tenn., Chattanooga—Dr. Ferguson erect \$14,000 residence; brick veneer, 2 stories and basement, 54x42 ft.; Louis H. Bull and N. G. Monning, Archts., 1031 Volunteer Life Bldg.

Tenn., Dyersburg—Dr. Nick Walker remodel and enlarge residence, recently damaged by fire; \$10,000; frame, 2 stories, oak floors, comp. shingle roof, tile bath; Geo. Mahan, Jr., Archt., Manhattan Sav. Bk. Bldg., Memphis.

Tenn., Lookout Mountain—J. E. Kelley soon start work on \$80,000 residence, Fairlyland.

Tenn., Lookout Mountain—Guy King plans residence, Fairlyland.

Tenn., Memphis—J. W. Busart, 1676 South Parkway, East, erect \$10,000 residence, Barksdale and Netherwood Sts.; brick veneer, 1 story, oak floors, tile bath, comp. roof; work by sub-contract.

Tenn., Nashville—C. Runcie Clements, 2212 State St., erect brick, stone and conc. residence, Harding Rd. and Jackson Blvd.; 2 stories and basement, 26x88 ft. with 98x34-ft. wing; Geo. D. Nevins & Wm. L. Dalrymple, Archts., Ind. Life Bldg.; interior decorating, A. Herbert Rodgers, 2410 West End.

Tenn., Nashville—Leon Hecht, 212 25th Ave., N., has low bid from Daniels & Dugger, 606 Broad Ave., for residence and garage; C. K. Colley & Co., Archts., Fourth & First Bldg. 6-5

Tex., Austin—Robt. O. Smith erect monolithic constr. residence; plaster and stucco, 1 story, 2 baths, 5 rooms, garage, tile floors, cement roof; Glenn C. Wilson, Archt., Millam Bldg., San Antonio.

Tex., Fort Worth—H. F. Lane, 3110 Strong St., erect brick veneer residence; 2 stories, 33x40 ft., oak floors, tile baths, asbestos slate roof; Fred Murphy, Archt., 205 K. of P. Club Bldg.; bids in.

Tex., Harlingen—D. B. Traxler erect \$35,000 frame and stucco residence after plans by B. Elwing; 2 stories, 101x73 ft., cement and oak floors, cement foundation, tile roof. 6-12

Tex., Houston—M. G. Worrell, 1314 Westheimer Ave., erect 2 brick veneer dwellings, 2338 Quenby Rd. and 2309 Wroxtton Rd.; 8 and 10 rooms; \$23,500.

Tex., Houston—Russell L. Jolley, 2622 Ruth St., erect \$12,000 brick veneer residence, 2527 Pelham Ave.; 2 stories.

Tex., San Antonio—G. D. McGloin, 917 Cambridge St., erect \$20,000 residence, Canton Drive; 10 rooms.

Va., Warrenton—E. A. Pierce, care Walcott & Work, Archts., 75 E. Wacker Drive, Chicago, Ill.; residence, etc.; bids in May 17; architects advise contract not let and no definite date as to letting. 5-15

Government and State

Ala., Fort McClellan, Anniston—Constructing Quartermaster, Lieut. O. E. Davis, plans officers' quarters and hospital bldg.; \$663,000.

Ala., Montgomery—Constructing Quartermaster may soon call for bids for officers' quarters, hangars and warehouses, Maxwell Field; \$1,470,000. 10-3

D. C., Washington—Congress passed bill authorizing expenditure of \$2,000,000 for erection in South of National Home for Disabled Soldiers.

Ga., Savannah—Treasury Dept., Jas. A. Wetmore, Act. Supvg. Archt., Washington, D. C., opens bids July 14 for extension and remodeling (except elevators) of post office and court house; \$900,000, rein. conc. and steel, brick and tile, stone trim, interior marble; drawings from office Supvg. Archt. 5-15

La., Monroe—Treasury Dept., Jas. A. Wetmore, Act. Supvg. Archt., Washington, D. C., abandoned plans for \$40,000 annex to post office; may erect new building. 4-10

N. C., Fort Bragg—Constructing Quartermaster, Capt. Lawrence L. Simpson, plans officers' quarters and dispensary; \$1,300,000.

Tenn., Knoxville—Treasury Dept., Jas. A. Wetmore, Act. Supvg. Archt., Washington, D. C., plans \$1,575,000 post office, site present structure, Market St. and Clinch Ave.

Hospitals, Sanitariums, Etc.

Fla., Tampa—Centro Espanol De Tampa, 1511 E. Broadway, erect \$50,000 annex to hospital, Bayshore Blvd.; 3 stories, 30 rooms and several wards; plans drawn but not yet approved.

Ga., Waycross—Ware County Bd. of Com. Mrs., J. T. Watt, Chmn., hospital comm., soon select architect for \$150,000 hospital; fireproof, about 85 rooms; Kings' Daughters erect \$15,000 nurses' home. 3-20

La., Bastrop—City Council probably have plans ready for bids at next meeting for \$45,000 hospital; brick, 2 stories, 25 beds; equipment, about \$10,000; J. W. Smith & Associates, Archts., Ouachita Bank Bldg., Monroe. 2-13

La., Minden—Louisiana and Arkansas Railroad, C. P. Couch, Exec. Vice-Pres., Magnolia Bldg., Dallas, may erect hospital.

Miss., Lexington—Holmes County Bd. of Com. will call for bids within 30 days for 2-story brick community hospital; \$50,000. 6-5

Mo., Salisbury—Fellows & Fellows erect \$15,000 hospital; brick, 1 story; Ludwig Abt, Archt., 114½ N. William St., Moberly.

Mo., St. Louis—Preston J. Bradshaw, Archt., 5947 Clemens St., interested in erection of 25-story hotel, Lindell Blvd. and Spring Ave., when conditions warrant; structure would be connected with present Hotel Coronado by underground tunnel.

Mo., St. Louis—Chauncey P. Heath Real Estate Co., 818 Chestnut St., sold site, 4111-15 Lindell Blvd., to party who plans \$650,000 ten-story apartment building.

Okla., Excelsior Springs—United States Veterans Bureau, Arlington Bldg., Washington, D. C., has low bid at \$47,000 from W. P. Thurston Co., Inc., 301 S. Fourth St., Richmond, Va., for officers' duplex quarters, U. S. Veterans Hospital. 5-29

Okla., Muskogee—United States Veterans Bureau, Arlington Bldg., Washington, D. C., has low bid at \$140,787 from Walter Petersen, Omaha, Neb., for boiler incinerator and laundry equipment, garage, roads, etc., U. S. Veterans Hospital; low bid for water tank, Pittsburgh-Des Moines Steel Co., Neville Island, Pittsburgh, Pa., at \$11,888; chimney bid, Continental Chimney Co., 120 N. Dearborn St., Chicago, Ill., at \$5290; water softener, Page & Jones Chemical Co., Hammond, Ind., at \$9300. 6-5

N. C., Charlotte—Dr. O. L. Miller, 15 W. 7th St., erect \$50,000 clinic, W. Seventh St.; 2 stories, ultimately 5 stories.

Tenn., Jackson—Memorial Hospital, W. A. Caldwell, considers erecting \$10,000 clinic addition.

Tenn., Memphis—St. Mary's Hospital, care Sister Mary Thomas, purchased site for nurses' home; \$30,000 to \$50,000, probably 3 stories and basement; to be erected when financing can be arranged.

Tex., Rusk—State Bd. of Control, Claude D. Teer, Chmn., Austin, let contract at \$65,700 to E. B. Snelling, Rusk, for ward bldg., State Hospital for Insane; brick, conc. frame, hollow tile, 2 stories, 132x60.9 ft. and 42x46 ft., tile and terrazzo floors, 20-yr. comp. roof; also has low bid at \$34,271 from R. F. Ball Construction Co., 806½ Taylor Ave., Fort Worth, for remodeling negro ward for dormitory; Page Bros., Archts., Austin Natl. Bk. Bldg., Austin. 5-20

W. Va., Parkersburg—St. Josephs Hospital, Fergus C. O'Connor, member, Bldg. Comm., 101 13th St., receives bids June 25 for \$300,000 hospital and nurses' home; brick, rein. conc., 4 stories; Fox, Duthie & Foote, Archts., Union Tr. Bldg., Cleveland, O.; following contractors estimating: R. L. Brown, 514 Avery St.; Plate Construction Co., 726 Jeanette St.; Berry Bros. Construction Co., Smith Bldg., all Parkersburg; Butts Sons Co., Wheeling Bank & Trust Bldg.; Engstrom & Wynn, Inc., 1117 Chapline St.; R. R. Kitchen Co., 37 19th St., all Wheeling, W. Va.; DeSibour Construction Co., 1200 15th St., N. W., Washington, D. C.; W. J. Linn Co., Portsmouth, O.; Esker W. Waugh, 100 8th Ave., W. Huntingdon, W. Va.; Chas. Peterson Construction Co., 4500 Euclid St.,

Cleveland, O.; Ward & Ward, Virginia and Truslow Sts., Charleston, W. Va. 6-5

Hotels and Apartments

Ala., Birmingham—Tutwiler Hotel, Coleman J. Hudson, Mgr., 3216 Niazuma Ave. S., expend \$75,000 for improvements to include redecorating ballroom and changes and additions to balcony and interior staircase, decorating lobby, refurnishing bedrooms, additional kitchen equipment.

Ark., Arkadelphia—Chamber of Commerce interested in erection of hotel.

Ark., Hot Springs National Park—Arlington Hotel Co., W. E. Chester, Pres.-Gen. Mgr., erect hotel addition; 7 stories, brick and rein. conc.; taking bids on plaster, millwork, plumbing, heating, electric wiring; also fireproof addition to hotel garage; install new service elevators; Eugene J. Stern, Archt., A. O. U. W. Bldg., Little Rock. 5-29

Ark., Jonesboro—Noble Hotel Co., Crawford Noble, Pres., having plans prepared by Estes W. Mann, Cotton Exch. Bldg., Memphis, Tenn., for addition and remodeling hotel; 4 stories, 90x112 ft., brick and rein. conc., comp. built-up roof, stone trim. 5-1

Fla., Miami—Charles L. Craig, 235 N. W. Second St., has permit for \$10,000 conc. block addition to apartment, N. W. Second St. between Second and Third Aves.

Ga., Atlanta—Mutual Realty Co., 133 Fairlie Ave., N. W., A. F. Walker, member, purchased Lorraine Apartment property adjoining Pickwick Hotel, Fairlie St.; have no positive plans; probably use site for addition to the Pickwick.

Ga., Dalton—Dalton Hotel Co., H. J. Smith, Pres., receives bids June 23 at office A. Ten Eyck Brown, Archt., and A. Barilli, Jr., Asso., both Forsyth Bldg., Atlanta, for 1-story, 28-room addition and improvements to 4-story, brick hotel; comp. roof, tile and hardwood floors; following contractors estimating: Williams Construction Co.; T. C. Wesley & Son; Christian & Bell, all Red Rock Bldg.; Smith & Pew, 435 Irwin St., N. E.; Padgett & Sutton, Rhodes Bldg.; Capitol Construction Co., Standard Bldg.; W. E. Mashburn Silvey Bldg., W. P. Francis, 201 Luckie St., N. W., all Atlanta; Townsend Lumber Co., Anderson, S. C.; Barrett Construction Co., Dalton; Mark K. Wilson, Power Bldg.; Rogers & Leventhal, 822 E. 11th St., both Chattanooga, Tenn. 5-22

Ga., Savannah—Henrik Wallin, Archt., 8 E. Anderson St., reported, preparing plans for hotel, Ogletrope Ave. and Bull St. on property owned by Hilton Estate.

La., Hammond—Chamber of Commerce promoting erection of hotel.

Md., Federalburg—Chantry Houses, Inc., Salisbury, announced plans for hotel.

Okla., Enid—George Blumenauer, Archt., previously reported preparing plans for \$340,000 commercial hotel, advises that project will be deferred for some months. 2-13

Okla., Oklahoma City—Mrs. Mattie B. Stewart, 14 N. Douglas St., soon ready for bids for \$16,000, 2-story, brick veneer apartment.

Okla., Oklahoma City—Stokes & Nicholson, Inc., Petroleum Bldg., plan \$500,000 apartment, Gatewood Ave. and 17th St.; build in 3 units.

Okla., Tulsa—Smith & Senter, Archts., Philtower Bldg., previously reported preparing plans for \$1,000,000 bus terminal and hotel for Southwest Cities, Inc., advises project still in preliminary stages. 2-6

Tenn., Memphis—R. L. Sieg, Archt., Sterick Bldg., drawing plans for \$40,000 apartment bldg., McLean St. near Poplar St.; brick veneer, 2 stories, 14x48 ft., hardwood floors, tile baths, comp. roof, 18-car garage; 24 suites.

Tex., Georgetown—Chamber of Commerce promoting erection of fireproof hotel to replace Commercial Hotel recently destroyed by fire.

Tex., Hereford—Chamber of Commerce promoting erection of \$250,000 hotel.

Va., Richmond—Main Street Assn., James J. Pollard, Pres., 804 Westover Rd., has plans by Marcellus E. Wright, Am. Natl. Bank Bldg., for \$700,000, 8-story tourist hotel, 11th and Bank Sts.; first floor and basement for shops and offices; 26 rooms and 17 private baths on each of 7 floors. 4-24

Miscellaneous

D. C., Washington—District of Columbia Memorial Assn., Frank B. Noyes, Chmn., 1239 Vermont Ave., N. W., erect \$155,000 World War Memorial, West Potomac Park; white stone temple to be used for band concerts; Frederick H. Brooke, Archt., 1218 Connecticut Ave. 6-12

Florida—America's Play Ground, Inc., E. Z. Jones, Sr., Pres., 325 W. Forsythe St., Jacksonville, reported, purchased 11,000-acre site in Levy county, near Gulf coast and develop for campers; erect clubhouse, construct airport, golf links, tennis courts and other recreational facilities. 1-30

Fla., Miami Beach—John S. Collings Memorial Library & Art Assn., Dr. Joseph Adams, Pres., 18 Belle Isle St., making minor changes in plans and award contract about July 1 for first unit of library, Collins Park; first floor, librarians' offices, reading and stack rooms; two wings, to be constructed later, for adults' and children's reading rooms; second floor for art exhibition gallery; two flanking galleries in wings for traveling art exhibitions; Russel T. Pancoast, Archt., 1139 Lincoln Rd. 5-15

Ga., Atlanta—Southeastern Fair Assn., Alfred C. Newell, Pres., Candler Bldg., plans exhibit buildings.

Ga., Moultrie—Henderson Furniture Co. receives bids June 24 for 1- and 2-story, 55x95 ft. funeral home; built-up and slate roof; T. Firth Lockwood, Archt., Murrah Bldg., Columbus. 6-5

La., New Orleans—Weiss, Dreyfous & Seifert, Archts., Maison Blanche Bldg., receives bids June 20 for 23x70 ft., 1 story, brick and frame addition to club building for Deutsches Haus, S. Galvez and Cleveland Sts. 5-1

Md., Baltimore—Biltmore Athletic and Country Club, Wade H. D. Warfield, Pres., Sykesville, Merle E. Towner, V.-P., Standard Oil Bldg., Baltimore, secured option on site, 219-25 N. Calvert St., for 13-story club building; \$850,000, furnishings, \$175,000; prob. 72 to 80 ft. by 110 to 115 ft., rein. conc.; include complete gymnasium, swimming pool, dining rooms, nursery, 125 to 140 single rooms; also secured option on 200-acre site 7 miles southwest of city for country club; buildings and improvements about \$150,000; plans include golf courses, polo field, tennis courts, swimming pool, etc.

Okla., Oklahoma City—Oklahoma Coliseum Co., W. R. Martineau, Sec., Exchange Bldg., has no plans as yet for rebuilding coliseum burned at \$250,000 loss; George Frederickson, Pres., 407 W. Main St. 6-5

Tenn., Chattanooga—Florence Crittenton Home Bd. of Trustees, Mrs. T. M. Clemons, Pres., 198 S. Crest Road, receiving bids date not set, for \$20,000, 2-story, brick, fireproof, stone trim, Colonial type school; tile and terrazzo floors; William Crutchfield, Archt., First Natl. Bank Bldg.; following contractors estimating: Mark K. Wilson, Power Bldg.; Orr-Barnes Co., Volunteer Life Bldg.; Geo. Becking & Son, James Bldg.; Rogers & Leventhal, 822 E. 11th St.; A. F. Hahn, Chamberlin Bldg.; Smith Bros., 211 E. 10th St.; S. S. Page & Son, James Bldg., all Chattanooga. 6-12

Tenn., Memphis—Longview Heights Hernando Terrace Civic Club, Austin J. McDermott, Pres., 525 E. McKellar St., plans clubhouse.

Tenn., Nashville—Central Church of Christ plans \$200,000 Home for Aged on Commerce St.; 5 stories, brick and stone, 200 rooms.

Railway Stations, Sheds, Etc.

Okla., Oklahoma City—St. Louis San Francisco Ry. Co., F. G. Jonah, Ch. Engr., St. Louis, and Chicago, Rock Island & Pacific Ry. Co., C. A. Morse, Ch. Engr., receive bids June 23 at office St. Louis-San Francisco Ry. Co. for \$2,500,000 union station; 360x22 ft., Bedford limestone, Moorish design; two platforms 1300 ft. long and one 1000 ft. long to be connected back of station and covered with sheds. 5-29

Schools

Ala., Fayette—Fayette County Bd. of Education, B. L. Balch, Supt., erect 1-story, brick or conc., 12-room and auditorium school; comp. roof; Chas. H. McCauley, Archt., Jackson Bldg., Birmingham; bids in.

Ala., Frisco—Bd. of Education receives bids June 23 (extended date) on 1-story, 217 x179 ft., brick, steel, stone trim, 15-classroom and auditorium school; asbestos roof; A. J. Honeycutt Co., Martin Bldg., and Coston McEaddy, both Birmingham, estimating. 6-12

Ala., Homewood, Birmingham—Bd. of Education erect high school addition, grammar school addition and negro school; each one story and basement, brick, comp. roof, stone trim; \$85,000; Bem Price, Archt., Comer Bldg., Birmingham; bids in. 6-5

Ark., Alexander—Girls Industrial School, Ben Brickhouse, Chmn. Bldg., Comm., Southern Tr. Bldg., Little Rock, erect \$20,000 administration bldg.; brick, 1 story, 126x60 ft., rigid shingle roof; H. Ray Burks, Archt., Wallace Bldg., Little Rock; bids in.

Ark., Belleville—Belleville Consolidated Dist., Robert White, erect brick high school; plans by State Dept. of Education, Statehouse, Little Rock.

Ark., Bergman—Bergman Special School Dist., H. H. Perkins, Sec., erect \$15,000, 1-story, brick, 8-classroom school; plans by State Dept. of Education, Statehouse, Little Rock; bids in.

Ark., Jonesboro—Bd. of Control, Jonesboro Baptist College, plans expansion.

D. C., Washington—U. S. Government, W. B. Anker, Room 6121, Interior Dept. Bldg., ready for bids in five months for \$390,000, brick and stone, fireproof chemistry building at Howard University; contain 700,000 cu. ft.; plans by A. I. Cassell, Archt. for University. 6-12

Fla., Chiefland—Levy County Bd. of Public Instruction, H. S. Priest, Supt., Bronson, receives bids June 25 for \$50,000, 1-story, 300x53 ft., brick, struc. steel school; comp. roof; Alvin B. Moore, Archt., Central Bldg., Tallahassee. 5-1

Ga., Camilla—Bd. of Education erect \$100,000 brick school; stone trim, wood and tile floors; Lloyd Greer, Archt., Valdosta.

Ga., Quitman—Bd. of Education, J. Harold Saxon, Supt., receives bids June 23 for rebuilding school recently damaged by fire; \$75,000, 2 stories, brick, struc. steel, comp. roof, terrazzo and wood floors, steam heat; Lloyd Greer, Archt., S. Patterson St., Valdosta; following contractors estimating: Norwood Griffin Co., Bona Allen Bldg., Atlanta; W. C. Hinton, Cordele; W. J. Pippin, Moultrie; Hinely Construction Co., Live Oak, Fla.; H. H. Brown, Dothan, Ala.; W. H. Spooner, Tifton, Ga.; J. M. Culpepper & Son, Pelham, Ga.; A. E. Ittner; R. J. Edgerly, both Albany; Prince E. J. Wright, Thomasville; A. G. Rountree, Fort Myers, Fla.; T. A. Monk, Bradentown, Fla.; W. A. Stillwell & Sons, Grand Bldg., Macon; J. M. Raymond Construction Co., Hildebrandt Bldg., Jacksonville, Fla.; Scarborough & Miller, Leesburg, Fla.; W. S. Lane, Quitman; Ledsinger & Turner, Brunswick; John T. Ragan, Vidalia; R. N. McEachern, Douglas. 5-15

Ky., Calvert City—School Bd. soon begin work on school building.

Ky., Dawson Springs—Bd. of Education soon let contract on revised plans for brick and conc. school; G. Tandy Smith, Jr., Archt., Guthrie Bldg., Paducah.

Ky., Lebanon Junction—School Bd., reported, has plans by H. E. Boyle & Co., Furniture Bldg., Evansville, Ind., for \$150,000, 2-story and basement, 81x112 ft., brick and steel, 11-classroom, gymnasium, auditorium and manual training dept. school.

Ky., Russellville—School Bd., reported, has plans by H. E. Boyle & Co., Furniture Bldg., Evansville, Ind., for \$150,000, 2-story, basement, 57x232 ft. brick and steel, 10-classroom school.

La., Edgard—St. John the Baptist Parish School Bd., receives bids until about June 30 for \$25,000, 1-story, brick, 2-classroom addition and repairs to high school; built-up comp. roof; A. S. Montz, Archt., 740 Poydras St., New Orleans. 6-12

La., Forest—West Carroll Parish School Bd., Oak Grove, receives bids July 8 for brick, 6-classroom addition and improvements to high school; \$38,000; Clarence W. King, Archt., Gidden-Lane Bldg., Shreveport, and Bernhardt Bldg., Monroe. 5-22

La., Lake Charles—Landry Memorial High School soon let contract for \$35,000, 2-story, brick and conc., 4-classroom, gymnasium and auditorium building.

La., Monroe—Following contractors estimating on \$450,000, 3-story, rein. conc., brick and limestone trim high school, bids June 30 by City Commission Council: Werner Co., Inc., 421 Commercial Bank Bldg.; Ashton Glassell Co., Ricon Ave., both Shreveport; L. A. Ellis, Old Central Bank Bldg.; W. C. Salley, Ouachita National Bank Bldg.; Frank Masling, 1510 S. Grand Ave., all Monroe; J. V. & R. T. Burkes, Am. Bank Bldg.; Geo. J. Glover Co., Inc., Whitney Bank Bldg.; O. M. Gwin Construction Co., 3503 Fern St.; Caldwell Bros., 816 Howard Ave., all New Orleans; Tudor & Ratcliff, Commercial Bank Bldg., Alexandria; William Peterson, 1300 Donaghey Bldg.; Gordon Walker, Rector Bldg., both Little Rock, Ark.; J. W. Smith & Associates, Archts., Ouachita Natl. Bank Bldg., Monroe. 5-29

La., Rayville—School Dist. No. 18, E. E. Keebler, Sec., selected Edw. F. Neild, City Natl. Bldg., Shreveport, to prepare plans for high school at Rayville, grammar school at Holly Ridge and repairs to other schools in district; \$225,000 bonds recently voted. 5-22

La., Vivian—Edward F. Neild, City Bldg., Shreveport, architect for \$125,000 school to be erected here by Caddo Parish School Bd., E. Weidman Jones, advises plans will not be ready for contractors before July 1; 12-classroom brick building and remodeling present building and auditorium. 6-5

La., Zwolle—Sabine Parish School Bd. receives bids July 2 for building to house boiler and heating plant, installation heating system for new high school, present high school, auditorium and domestic science cottage; J. W. Smith & Associates, Archts., Ouachita Natl. Bldg., Monroe. 6-5

Md., Baltimore—Bd. of Awards, City Hall, received bids for addition and alterations to Govans Elementary School. Campells Lane and Govans Ave.; \$30,000; O. Eugene Adams, Archt., 329 N. Charles St. 6-5

Md., Baltimore—University of Maryland, Roger Howell, Asst. Dean, having plans prepared by Smith & May, Calvert Bldg., and soon call for bids for \$200,000, 3-story Law Bldg.; Redwood St. between Paca and Greene Sts.; contain classrooms, library, offices for professors, practice court and lounge. 6-5

Miss., Bay St. Louis—St. Joseph Academy has low bid at \$50,048 from E. G. Lawley, Gulfport, for 2-story, brick gymnasium, auditorium, classroom and music room addition; E. F. Spurl, Archt., Vincent Bldg. 6-12

Miss., Dossville—Singleton Consolidated Dist. School Bd., J. W. Evans, Pres., erect school; bids in. 6-12

Miss., Duck Hill—Montgomery County Bd. of School Trustees receives bids June 27 for \$40,000, 1-story, 156x161-ft. brick auditorium and gymnasium and 42x45-ft., 1-story vocational building; 5 classrooms, comp. roof, stone trim; N. W. Overstreet, Archt., Miss. Fire Insurance Bldg., Jackson. 5-15

Miss., Olive Branch—Bd. of Trustees, DeSoto County Agricultural High School, receive bids June 27 for brick dormitory to replace burned structure; plans from principal of school, or office County Supt. of Education, Hernando. 6-12

Miss., Oxford—Mississippi Building Comsn., W. C. Trotter, Sec., New State Capitol Bldg., Jackson, extended opening bids from June 19 to July 3 for power house, heating connections, sewerage, electrical distribution and water to rear group of buildings at University of Mississippi; plans from C. H. Lindsay, Archt., Jackson Tower Bldg., Jackson, also on file office of Sec. of Bldg. Comsn. 6-12

Miss., Scooba—Scooba Junior College selected P. J. Krouse, M. & W. Bldg., Meridian, to prepare plans for girls' dormitory building, steam heating plant in administration building, and boys' dormitory building; brick. 6-12

Miss., Walnut Grove—Walnut Grove Consolidated School Dist. Trustees, J. H. Sasse, Sec., erect \$60,000, rein. conc. and brick school; P. J. Krouse, Archt., M. & W. Bldg., Meridian bids in. 5-1

Mo., Diehlstadt—Bd. of Education, W. A. English, Sec., erect 1-story addition and remodel present building; bids in. 6-12

Mo., Essex—Bd. of Education, R. G. Langley, Pres., erect 2-story addition and remodel school; F. W. Rodman, Archt., Sikeston; bids in. 6-12

Mo., Holcomb—Holcomb Consolidated School District soon call new election on \$10,000 gymnasium bonds. 6-12

Mo., New Madrid—Bd. of Education, Consolidated School Dist. No. 9, J. Sterns, Sec., erect 2-story and basement, 135x50 ft., brick, rein. conc., fireproof high school, erect addition and repair grade school and erect addition to negro school; \$62,000 available; Bon-sack & Pierce, Archts., 411 Olive St., St. Louis; bids in on revised plans. 5-29

Mo., Perryville—St. Mary's Seminary erect fireproof dormitory; brick and rein. conc., 4 stories and basement, 195x75 ft., tile roof, conc. foundation, cut stone trim, steam heat; Henry P. Hess, Archt., Ambassador Bldg., St. Louis, received bids. 6-12

Mo., Poplar Bluff—Christ Carlos and others may start work in Fall on \$200,000 hotel; brick and conc., 5 stories and basement; plans, reported, complete. 6-12

N. C., Durham—Duke University install \$70,000 carillon in chapel tower, gift to George G. Allen and William R. Perkins, New York. 6-12

N. C., Greensboro—Agricultural and Technical College, Dr. F. H. Bluford, Pres., has low bid at \$93,450 from Burrow & Land, Asheboro, for Dudley Memorial Building; 3 stories, 164x54 ft., brick, limestone; 14 classrooms, library, physics laboratory and offices of college; heating, \$9,534, W. W. Dick, 246 Bellemeade St.; plumbing, \$3945, Harry Biddell, Jefferson Bldg.; electrical, \$2850, W. P. Christian, Inc., 718 Percy St., all Greensboro; Charles C. Hartman, Archt., Jefferson Standard Bldg. 6-5

N. C., Jacksonville—Onslow County Bd. of Education selected Leslie N. Boney, Wilmington, as architect for \$60,000 high school to replace burned structure. 6-5

N. C., Salisbury—Lexington College ready for bids by June 25 for \$100,00, 2-story and basement, rein. conc., brick and tile building; stone trim, comp. roof, wood floors; Hentz, Adler & Shute, Archts., Candler Bldg., Atlanta, Ga. 3-20

Okla., Chickasha—School Bd. erect 53x194-ft., 10-classroom school at 1000 Iowa Ave.; 53x152-ft., 8-classroom school at 1000 Choc-taw Ave., and 4-classroom school at 1300 S. Seventh St.; all one story, brick and frame, Johns-Manville built-up roofs, pine floors, steam heat; addition to Jr. High School, 75 S. Seventh St.; \$85,000; Eads & Co., Archts.; bids in. 6-5

Okla., Frederick—Bd. of Education, Consolidated Dist. No. 13 erect \$40,000, 1-story, 51x191 ft., brick and tile school; W. J. Laws & Co., Archts., First Natl. Bank Bldg., Oklahoma City. 5-22

Okla., Oklahoma City—Bd. of Education, J. G. Stearley, Clk., has low bid at \$21,887 from Harmon & Mattison Construction Co., Insurance Bldg., for Edgemere School addition; at \$24,000 for Putnam Heights addition from Musgrave Construction Co., Cotton Grain Exch. Bldg.; Layton, Hicks & Forsythe, Archts., Braniff Bldg. 5-29

S. C., Aiken—Aiken Institute Bd. of Trustees, P. F. Henderson, Chmn., soon start work on 4-room addition to annex. 6-12

S. C., Denmark—Voorhies Normal & Industrial School, J. B. Blanton, Principal, erect \$90,000, 2-story and basement, rein. conc., brick and steel classroom building; comp. roof, stone trim; S. J. Makielski, Archt., Charlottesville, Pa.; bids in. 6-12

Tenn., Newbern—School Bd. having plans prepared by George Mahan, Jr., Manhattan Bank Bldg., and Everett Woods, Asso., 306 S. Cleveland St., Memphis, for high school and addition and improvements to elementary school; \$75,000. 6-5

Tenn., Knoxville—Bd. of Education remodel old gymnasium building of Knoxville High School for classrooms; \$25,000, 3 stories, 52x82 ft., brick, steel and frame; maple floors, gravel roof; Ryno & Brackney, Archts., Brownlow Bldg.; bids in. 6-12

Tenn., Ripley—School Board receives bids June 23 for \$65,000 brick and steel grammar school; Spanish type, 1 story, 13 classrooms, library, auditorium seat 1000; R. A. Heavner, Archt., Kate Robertson Bldg., Jackson. 6-12

Tenn., Signal Mountain—Hamilton County Bd. of Education, Judge Will Cummings, Chmn., Chattanooga, erect \$20,000, 1-story, 4-classroom addition and remodel school; William Crutchfield, Archt., First Natl. Bank Bldg., Chattanooga; soon ready for bids. 6-12

Tex., Bellville—Bellville Ind. Dist. Bd. of Education erect \$20,000, 4-classroom and auditorium addition to school; L. A. Glover, Archt., Merchants & Manufacturers Bldg., Houston; bids in. 6-12

Tex., Bells—Town votes July 7 on \$30,000 bonds for school; address School Bd. 6-12

Tex., Benjamin—Consolidated School Dist. No. 27 votes soon on \$35,000 bonds. 6-12

Tex., Dallas—Sacred Heart Cathedral, Rt. Rev. Joseph P. Lynch, Bishop of Dallas, plans to start work about July 1 on \$40,000 improvements to former University of Dallas, for school. 6-12

Tex., Fredericksburg—School Bd. plans several schools. 6-12

Tex., Harper—Harper Public School Bd., J. B. Birt, Sec., having plans prepared by C. H. Christensen, Hotel Nimitz, Fredericksburg, for school addition; \$12,000 bonds recently voted. 6-12

Tex., Houston—Christ the King Church, Rev. James Patrick, Pastor, rejected bids for 2-story, 46x49 ft., 10-room convent building and 135x83 ft. school, Reagan and Pizer Sts.; both brick veneer; Louis P. Josserand, Archt., First Natl. Bank Bldg. 5-1

Tex., Irving—Irving Ind. School Dist. voted \$40,000 bonds. 6-12

Tex., Kirbyville—Bd. of Education plans \$25,000 school improvements; bonds recently voted. 6-12

Tenn., Lewisburg—Marshall County defeated \$50,000 bonds for \$20,000 schools at Chapel Hill and Lewisburg and \$10,000 school at Cornersville. 5-8

Tex., Lufkin—Redland School Dist., near Lufkin, voted \$10,000 bonds for gymnasium and auditorium. 6-12

Tex., Luling—Luling School Dist., Dr. Charles Ward, Pres., School Bd., erect 1-story, 250x77 ft., brick, tile and rein. conc., 12-classroom, cafeteria and auditorium grade school; asbestos shingle roof, gas steam radiation heat; Glenn C. Wilson, Archt., Milam Bldg., San Antonio; bids in. 5-15

Tex., Mauriceville—Mauriceville Ind. School Dist. plans vote on bonds for school; cost \$35,000 to \$40,000; Prof. Hampton Burkhalter, Supt. of School. 6-12

Tex., Smelter, El Paso—Smelter School Dist. plans \$50,000 improvement bonds. 6-12

Tex., Mineral Wells—Bd. of Education Jesse Hayes, Pres., receives bids June 25 (extended date) for \$90,000, 2-story, 77 x 140 ft., brick and rein. conc. Sam Houston elementary school; separate bids on heating, plumbing and electric wiring; A. B. Withers, Mineral Wells, and Elmer G. Withers, Holmes Bldg., Fort Worth, Asso. Archts., additional bidders on General Contract—H. J. Naylor, 512 Filmore Ave., Wichita Falls; Balfanz Construction Co., Abilene; Buck Witherspoon, Mineral Wells; Electric—N. E. Bushey & Co., 4004 Main St., Dallas; Plumbing—David Wickers & Co., Sweetwater. 5-29

Tex., Shiro—Shiro Ind. School Dist., E. E. Foster, Pres., has low bid at \$33,500 from A. N. Evans, Columbus, for 1-story, 147x108 ft., tile, struc. steel, rein. conc. and stone high school addition; tile, wood and conc. floors; Marvin & DeFee and Emory S. White, Archts., Merchants and Manufacturers Bldg., Houston. 6-5

Va., Blacksburg—Virginia Polytechnic Institute has low bid from North-Eastern Construction Co., Reynolds Bldg., Winston-Salem, N. C., for \$150,000, 4-story, 100x120 ft., fireproof dairy husbandry building; heating, F. L. Watson, 214 10th St., Lynchburg; plumbing, R. C. Beverly Heating Co., 208 E. Main St., Richmond; plans by C. H. Cowgill, Dept. of Architectural Engineering at Institute; Wiley & Wilson, Peoples Natl. Bank Bldg., Lynchburg, prepared plans for plumbing, heating and piping. 6-12

Va., Bent Mountain—Roanoke County School Bd., Salem, authorized erection of 4-room unit at Ogden school and 6-classroom and auditorium addition at Bent Mountain school. 6-12

Va., Lynchburg—Randolph-Macon Woman's College, Dr. D. R. Anderson, Pres., plans improvements to include rebuilding music practice rooms and studios for dormitory rooms, remodeling old library, change music studios in basement of history annex for laboratory in geography and geology. 6-12

Va., Mitchells—Culpeper County School Bd. Culpeper, rejected bids for school addition; have plans prepared for less costly building in near future. 6-12

Va., Richmond—School of Social Work and Public Health, 827 W. Franklin St., purchased Richmond Public Library, Shafer and Franklin Sts., and remodel for library; establish art center. 6-12

Va., Rosslyn—Arlington County voted \$640,000 bonds for following school additions: Washington Lee High, 42 rooms, \$255,000; Henry Clay, 4 rooms, \$22,500; Stonewall Jackson, 4 rooms, \$22,500; James Monroe, 4 rooms, \$25,000; Nellie Custis, 4 rooms, \$22,500; Patrick Henry, 4 rooms, \$20,000; Woodmont, 2 rooms, \$12,000; Jefferson Colored, 4 rooms, \$20,000; furniture and equipment for above schools, \$15,000; refunding former debts for capital outlay, \$225,000; Fletcher Kemp, Supt., Bd. of Education. 5-15

Va., Williamsburg—Epsilon Alpha Zeta Holding Corp., J. L. Arnold Motley, Pres., Rexburg, erect fraternity house at College of William and Mary. 6-12

W. Va., Montgomery—State Bd. of Control, Henry N. Bradley, Pres., Capitol Bldg., Charleston, receives bids July 15 for 3-story and basement, 90x129 ft. library building at New River State School; brick, stone and terra cotta trim, steel interior frame with conc. joist construction, linoleum and asphalt tile floors, built-up roof, vapor heat; separate bids on heating, plumbing, electric work, and library equipment; plans from V. C. Pettit, Archt., Kanawha Bank & Trust Bldg., Charleston. 6-12

Stores

Ark., Little Rock—Mrs. Georgia Shipton has permit for \$11,000, 1-story, fireproof store, 120 E. Washington Ave.; 4 store rooms. 6-12

Ga., Atlanta—Samuel Inman Estate, care John Hynds, Atlanta Trust Bldg., erect building to replace structure, 212-14 Mitchell St., recently destroyed by fire; brick, tar and gravel roof.

Ga., Augusta—F. D. Carr erect \$12,000, brick store, 1150-52 Broad St.

Ga., Columbus—The Kirvin Co., A. B. Wade, 2009 Oak Ave., soon ready for bids for remodeling former Bonita Theatre, 18 Twelfth St., for store; Smith & Biggers, Archts., Murrah Bldg.

Fla., Miami—Forest Realty Co., Frank Lowman, Atty., 54 W. Flagler St., erect \$10,000, rein. conc., conc. block and stucco store, 62nd St. and Seventh Ave.; Carlos B. Schoepf, 528 Lincoln Road, Miami Beach, and John & Coulton Skinner, French Village, Le Juene Road, Coral Gables, Asso. Archts.

La., New Orleans—A. A. Freed Realty Co., Canal Bank Bldg., erect 1-story, 45x127 ft., brick, fireproof store, 1029 Bienville St.; C. E. Amenn, Archt., 1338 S. Carrollton Ave.; bids in June 15.

Miss., Jackson—Scott Store, Inc., 430 W. Randolph St., Chicago, remodel building, 138-40 E. Capital St. 6-5

Mo., St. Louis—Syndicate, care Holbrook-Blackwelder Real Estate Co., Agents, 1010 Olive St., soon ready for bids for remodeling 6-story and basement, brick and rein. conc. building, 9th and Locust Sts., for store to be leased to Thomas W. Garland, 410 N. 6th St., and erecting 3-story, 150x150 ft., addition for offices of Bd. of Education; one freight and five passenger elevators, marble, tile and terrazzo work; Geo. R. Bartling, Inc., Archt., Paul Brown Bldg. 5-22

Mo., St. Clair—C. E. Johnson soon ready for bids for 2-story and basement, 20x80 ft., brick store on Main St.; comp. roof, wood floors, hot air heat.

Okl., Oklahoma City—Southwestern Electric Co., 425 W. Main St., receives bids July 25 for \$35,000, 2-story, brick, stone, steel and rein. conc. store.

Tenn., Knoxville—Merrill D. Arnold, Pres., Fidelity-Bankers Trust Co., 502 S. Gay St., Trustee for Daniel Briscoe Estate, soon let contract for several stores in connection with union bus terminal; Manley & Young, Archts., Maplehurst Park. See Construction News—Motor Bus Lines and Terminals. 6-12

Tex., Mercedes—John R. Bowes and associates, 203 S. Dearborn St., Chicago, purchased Mercedes hotel property and plan number of business buildings on site.

W. Va., Clarksburg—Mrs. M. L. Murphy, 109 Holt Ave., plans \$150,000, 3-story, 75x70 ft., brick office, store and apartment, 351 W. Ike St., to be known as Glaney Bldg.

BUILDING CONTRACTS AWARDED

Bank and Office

Okl., Bartlesville—Phillips Petroleum Co., John H. Kane, Exec. Vice-Pres., erect addition to office bldg.; 10 stories and tower on Keller Ave., 8-story wing at rear of present bldg. and additional story to present structure; Hamilton Construction Co., Contr.

Okl., Enid—Broadway Development Co., Harry Schroeder, member, let contract for \$350,000 office bldg., 110-14 E. Broadway, to McMillan & Shelton, Enid; 11 to 14 stories, 1st floor 75x150 ft., remainder 75x50 ft., fireproof, steel or steel and conc., 2 high-speed elevators, incinerators, drinking fountains; Geo. Blumeauer, Enid, and Layton, Hicks & Forsythe, Braniff Bldg., Oklahoma City, architects. See Want Section—Building Material and Equipment. 6-5

Okl., Oklahoma City—Carolina Steel & Iron Works, S. Elm extension, Greensboro, N. C., has contract for 200 tons struct. steel shapes for \$1,200,000 addition to bldg. for Jas. S. Gladish, 524 E. Ninth St.; A. L. Desjardins, Archt.; Chas. M. Dunning Construction Co., Contr., 426½ N. Hudson St., both Oklahoma City. 6-5

Tex., Cuero—W. R. Garrett and Tom Cheatham erect \$10,000 office bldg.; stucco, rein. conc. and hollow tile, 1 story, 51x50 ft.; foundation to carry additional story; J. D. Young, Contr.

Tex., Dallas—McNeny & McNeny, Athletic Bldg., having plans completed for \$1,500,000 Tower Petroleum Bldg., Elm and St. Paul Sts., work scheduled to start July 1; Henger & Chambers Co., 1000 Dallas Natl. Bk. Bldg., gen. contract on percentage basis;

Theatres

Ark., Helena—Emile Weil, Inc., Archt., Whitney Bank Bldg., New Orleans, La., receives bids on revised plans June 24 for theatre for Paramount Publix Theatres Corp., Paramount Bldg., New York; seat 1500 people; following contractors estimating: General—McArthur & McEmore, M-W Bldg., Meridian; E. T. Walker, Helena; J. A. Petty & Sons, Inc., Godchaux Bldg., New Orleans, La.; Gauger-Korsmo Construction Co., Fidelity Bk. Bldg.; S. & W. Construction Co., Shrine Bldg., both Memphis, Tenn.; S. J. Churchill, 3829 Maplewood Ave., Dallas, Tex.; Mechanical Equipment—J. J. Nolan & Co., Inc.; Fischer Heating Co., 367 Adams St.; Hughes Heating Co., 672 Madison St., all Memphis, Tenn.; Robinson Bros. Plumbing Co., 214 W. Barr St., Pine Bluff; Wiggs Plumbing & Heating Co., Helena; American Heating & Plumbing Co., 829 Baronne St., New Orleans, La. 4-3

Ark., Helena—Paramount-Public Theatres Corp., Paramount Bldg., New York, erect theatre; Emile Weil, Inc., Archt., Whitney Bank Bldg., New Orleans, La.; bids in. 4-3

La., Lake Providence—Max Levy soon ready for bids for 50x150 ft., brick theatre; seat 750 people; J. W. Smith & Associates, Archts., Ouachita Natl. Bank Bldg., Monroe. 4-3

Okl., Norman—A. W. Parr erect \$50,000 theatre on E. Main St.; brick and marble concrete stone. 4-3

Tenn., Memphis—Union & Planters Bank & Trust Co. erect brick, conc. and steel store bldg., 10-12 S. Front St.; 2 stories and basement; Hanker & Cairns, Archts., Court Square Bldg.; drawing plans. 4-3

Tex., Victoria—Rubin Frels erect brick theatre on W. Constitution St.

Va., Tenn., Bristol—Bristol Theatre Corp., W. P. Engel, Sec., 1909 First Ave., Birmingham, Ala., has low bid from Smallman Construction Co., 1109 5th Ave., S. Birmingham, for \$260,000, 2-story, 85x230 ft., rein. conc., struc. steel, brick and tile theatre; stone trim, cementile and built-up roof, conc. and terrazzo floors, steam heat; McDonald & Co., Engrs., Southeastern Trust Bldg., Atlanta, Ga. 5-29

W. Va., Parkersburg—Warner Brothers Pictures, Inc., 321 W. 44th St., New York, plan \$350,000 theatre, 8th and Market Sts.; seat 1700 people. 5-1

W. Va., Parkersburg—Smoot Amusement Co., 220 Eighth St., recently reported to erect theatre, abandoned project. 4-24

Warehouses

Fla., Childs—Roebeling Estate, J. A. Roebeling, Westfield, N. J., reported, having plans prepared by Alexander Blair, Lake Placid, Fla., for \$50,000, 2-story, hollow tile and rein. conc. warehouse; built-up roof, conc. floors. 4-10

no sub-contracts let nor material ordered; struct. steel frame, conc. fireproofing, first floor black granite, second to fifth floors, Indiana limestone, remainder face brick and terra cotta; terrazzo floors, Browne windows, Philippine mahogany doors and trim, 4 signal control, 800-ft. per minute passenger elevators; Mark Lemmon, Archt., Construction Industries Bldg. 4-10

Churches

Ark., Pine Bluff—First Presbyterian Church remodeling bldg.; \$15,000 to \$25,000; redecorate; roof repairs about half completed; Edwin B. Phillips, Archt., Fidelity Bk. Bldg.; Memphis, Tenn.; Davis Quinn, Contr., 916 W. 27th St., Pine Bluff. (Lately noted drawing preliminary plans.) 6-12

La., New Orleans—Corpus Christi R. C. Church, Rev. M. J. O'Neill, S. J. J., Pastor, erect 1-story church, St. Bernard and N. Johnson Sts.; sheet metal work, steel windows, orna. iron work, struct. steel, masonry; Paul G. Charbonnet, Contr., 830 Union St. 6-12

Md., Baltimore—H. A. Woolery & Son, Bloomington, Ind., has Indiana limestone contract for \$200,000 auditorium for St. Marks M. E. Church, Garrison Blvd. and Liberty Heights Ave.; stone setting, Joe Casale & Co., 38th & Roland Ave.; steel setting, Maryland Steel Products Co., Standard Oil Bldg., both Baltimore; Clyde N. & Nelson Friz, Archts., Lexington Bldg.; Thos. Hicks & Sons, Inc., Contr., 106 W. Madison St., both Baltimore; mech. contracts to be let by Owner. 5-15

Mo., St. Louis—Trinity Evangelical Church let contract to Geo. Moeller, 3520 Itaska St., for church and Sunday school, E. Grand Blvd. and Itaska St.; brick and rein. conc., 1 and 2 stories and basement, about 100x79.11 Leonard Haeger, Archt., 3844 Utah St. 4-10

Mo., Washington—First M. E. Church, South, started work on Sunday school; Tri-Ply rein. conc., 2 stories, 36x52 ft., conc. and wood floors, conc. and tar roof; about \$10,000; plans by Bd. of Church Extension of M. E. Church, South, Louisville, Ky.; John Schaper, Engr.-Contr., Washington. 6-12

Tenn., Memphis—Columbia Baptist Church erect \$10,000 brick bldg., 990 Meriwether St.

Va., Charlottesville—Christian Church, Rev. Edwin S. Sweeney, Pastor, laying foundation for first unit of Sunday school bldg.; \$18,000, 4 stories, 50x30 ft.; Herbert L. ain, Archt., Grace Securities Bldg., Richmond. 4-3

City and County

Ala., Bay Minette—City, E. A. Moore, Mayor, let contract to G. L. Eubanks for library; Owen & Clarke, Archts., Merchants Natl. Bk. Bldg., Mobile. 4-3

Ala., Selma—Dallas County Bd. of Revenue let contract to R. N. Smyley for alterations to court room; Frank Lockwood, Archt., 119 Adams St., Montgomery. 5-22

La., Abbeville—Vermillion Parish Police Jury let contract at about \$20,000 to C. J. Montgomery, Kaplan, to remodel courthouse; fireproof, new plumbing, elect. work, linoleum rubber floors, masonry, carpentry, etc.; Theo. L. Perrier, Archt., Maritime Bldg., New Orleans. 5-22

Miss., Jackson—Southern Tile Co., Inc., 523 Royal St., New Orleans, has tile and terrazzo work contract for \$850,000 Hinds County courthouse; Claude H. Lindsley, Archt., Edwards Hotel Bldg., Jackson; Gardner & Howe, Struct. Engrs., Porter Bldg., Memphis, Tenn.; C. A. Peerman, Mech. Engr., 400 S. 21st St., Birmingham, Ala.; Angle-Blackford Co., Contr., Amer. Exch. Bk. Bldg., Greensboro, N. C. 2-14

Tex., Amarillo—Potter County Commrs. Court let contract at \$22,034 to Albert L. Randall, Amarillo Bldg., Amarillo, for automobile show bldg., Tri-State Fair Grounds; fireproof, brick, tile and steel, conc. floor, 120x150 ft.; Rittenberry & Carder, Archts., Fisk Medical and Prof. Bldg.; County has received bids to remodel and enlarge cattle barns and hog barn, cost about \$5000. 5-22

Dwellings

Ala., Birmingham—Frank B. Clark, First Natl. Bk. Bldg., erect stone residence, Mt. Brooke Estates; 1 story, 70x36 ft., tile or slate roof, steam heat; Sam C. Molloy, Archt., Protective Life Bldg.; D. H. Marbury, Jr., Contr., 4006½ S. Ninth St. 4-10

Ark., Little Rock—Cole Building Co. erect 3 dwellings, Normandy Addition; total \$15,000.

Ark., Little Rock—J. S. Cheek, 2220 State St., erect \$12,000 residence, 4023 Lee Ave.; Cole Building Co., Contr.

Fla., Clearwater—John Phillipoff erect \$20,000 residence; Jonsberg & Wakeling, Archts., Coachman Bldg., Clearwater, and Times Bldg., St. Petersburg; details not determined; day labor.

Fla., Jacksonville—D. R. Curtis, 2877 Downing Ave., erecting \$12,500 stucco residence, Edgewood Circle, Avondale; Colonial type, brick and stone trim, 2 garages, laundry; Geo. O. Holmes, Jr., Archt., 135 E. Bay St.; N. L. Snelson, Contr., 2948 Park St. 4-10

Fla., Jacksonville—F. G. Hoefel, 226 W. 19th St., erecting \$13,000 Colonial duplex, Hedrick Ave.; brick veneer, 2 stories, hot water heat, elect. refrigerator, elect. stoves; Geo. O. Holmes, Jr., Archt., 135 E. Bay St., R. W. Burrows Construction Co., Contr.

Fla., Miami Beach—W. H. Bishop, 1412 Ocean Drive, erect \$10,000 residence, 4604 Meridian Ave.; 35 x 40 ft.; Carlos B. Schoepf, 928 Lincoln Rd., Miami Beach, and John & Coulton Skinner, LeJeune Rd., Coral Gables, architects; Jesse P. Montz, Contr., 4349 Sheridan Ave., Miami Beach.

Fla., Miami Beach—Warren A. Clements erect \$25,000 residence, 4607 Meridian Ave.; conc. block and stucco, 2 stories, tile and oak floors, tile and comp. roof, steel sash; John & Coulton Skinner, Archts., LeJeune Rd., Coral Gables; Wm. F. Bousack, Contr., 126 N. E. First St.

Fla., Miami Beach—C. C. Turner erect \$10,000 duplex, 927-29 Meridian Ave.; Carlos B. Schoepf, Archt., 928 Lincoln Rd.; Gunn & Goll, Inc., Contr., Security Bldg.

Ga., Atlanta—W. L. Hardin, 1407 Beecher St., S. W., erect brick veneer residence; 1-story, comp. roof; day labor.

Ga., Atlanta—E. A. Gillam, 30 Rogers St., S. W., erect brick veneer residence, 1376 Athens Ave., S. W.; 1 story, comp. roof; day labor.

Ga., Augusta—Mrs. Jennie D. Fleming let contract to W. O. Hallman, Lakemont, for addition to residence; stucco and metal lath, 2 stories and basement, asbestos shingle roof; E. Lynn Drummond, Archt., 2506 Central Ave. 6-5

Ga., Atlanta—Mrs. Laura M. McCatharn, 444 Wabash Ave., N. E., erect brick veneer residence, 161 Carter Ave., S. E.; 1 story, 5 rooms and bath, comp. roof; M. R. Snipes, Contr., 935 Alloway Place, S. E.

Ga., Thomasville—W. Cameron Forbes, Upland Rd., Boston, Mass., Worden E. Mack, Thomasville, representative, let contract to Joe M. Beutell, Thomasville, for brick residence, outbuildings, stables for 20 horses; 2 polo fields; Shepard & Stearns, Archts., 65 Franklin St., Boston. 6-12

La., Monroe—Jos. L. Armon, Contr., plans number brick veneer dwellings, Cole's Addition; hardwood floors, tile baths; sell for about \$4000 each.

La., New Orleans—J. E. Cockerhan, Contr., 941 St. Maurice Ave., erect dwelling, 800 Friscoville Ave.; tile work, built-up roof.

Md., Baltimore—Frank Novak Realty Co., 33rd St., erect 14 brick dwellings, 3300 block Shannon Drive, after plans by G. F. Smithson, 2225 Pelham Ave.; 2 stories, about 18x47 ft., slag roofs, hot water heat; \$56,000; owner builds. 6-12

Md., Baltimore—Harrison Weymouth, 218 E. Biddle St., erect \$12,000 residence and garage, 5406 St. Albans Way; brick, 2 stories, 43.8x46 ft. and 20x20 ft., slate roofs, hot water heat; Cyril H. Hebrank, Archt., 3 E. Lexington St.; Clarence L. Jarvis, Contr., The Charles Apts.

Md., Baltimore—Century Corp., Morris Bldg., excavated for 6 dwellings, 4500-10 Edmondson Ave.; stone, cinder block and stucco, 31x35 ft., wood floors, stone foundations, slate roofs; also start work in 2 weeks on 6 similar dwellings in 4700 block Edmondson; Chas. Schroter, Archt., Court Square Bldg.; owner builds.

Md., Baltimore—Donohue-Hilton Co., Lexington Bldg., erect 35 brick dwellings, 101-169 Monastery Ave., after plans by J. J. Murphy, Eutaw and Monument Sts.; 2 stories, 15x38 ft., Carey roof, hot water heat; \$88,000; owner builds. 6-5

Md., Baltimore—Inter-City Land Co., Knickerbocker Bldg., erect 3 frame dwellings, 4804-08 Holder Ave.; 2½ stories, 24x28 ft., steam heat; \$10,000; Benj. R. Sale, Contr., 3201 Clearview Ave.

Md., Baltimore—Harry Page, Bldr., 327 E. 30th St., erect \$10,000 brick dwelling, 200 Upnor Rd., Homeland; Wrenn, Lewis, Westenhaver & Jencks, Archts., Title Bldg.

Md., Baltimore—John W. Mehling, 22 Light St., erect \$10,000 residence and garage, 314 Broxton Rd., Homeland; frame, 2 stories; Gunn, Williamson & Guy, Inc., Contrs., 306 N. Charles St.

Md., Baltimore—Geo. P. Mueller, Contr., 820 Conklin St., erect 3 brick dwellings, 1001-05 Providence St.; 2 stories, 13.6x41 ft., hot water heat; \$10,000; H. A. Stillwell, Archt., 206 E. Lexington St.; owner builds.

Md., Queenstown—T. Marsalis, care R. H. Dana, Jr., Archt., 350 Madison Ave., New York, excavating for \$85,000 residence; frame, main section 2½ stories, two 2-story wings; G. E. Lane, Contr.; lumber, S. E. W. Friel, both Queenstown; millwork, Heise & Brun Mill & Lumber Co., 600 S. Caroline St., Baltimore, Md.; brick, Milton Brick Co., Milton, Del.; plumbing and heating, M. B. Slemmer, Centerville, Md.

Mo., Clayton, St. Louis—Malvern Investment Co., Fullerton Bldg., erect \$10,000 dwelling, 425 Oakley Drive; brick, 2½ stories, 36x32 ft., rubble foundation, slate roof, hot water heat; Nolte & Nauman, Archts., Fullerton Bldg.; owner builds.

Mo., Clayton, St. Louis—D. E. Woods, 7069 Kingsbury Blvd., erect \$40,000 residence, 12 Carswald St.; 85x52 ft., rubble foundation, slate roof, vapor heat; Martz & Young, Inc., Archts., Chemical Bldg.; Higbee Bros. Construction Co., Contr., 6164 Delmar Blvd., both St. Louis.

Mo., Clayton, St. Louis—Ella P. Lauman, 6307 Westminster St., erect \$60,000 residence, Carswald; brick, 2 stories, 111x58 ft., rubble foundation, slate roof, vapor heat; Martz & Young, Inc., Archts., Chemical Bldg.; Higbee Bros. Construction Co., Contr., 4164 Delmar Ave., both St. Louis.

Mo., Clayton, St. Louis—Guarford Realty & Investment Co., 1003 Fullerton Bldg., erect two 2-story brick dwellings and garages, 7415-17 Byron Place; 42x30 ft., rubble foundation, slate roof, hot water heat; Nolte & Nauman, Archts., 3832 W. Pine St.; R. A. & G. B. Bullock, Contrs., 1003 Fullerton Bldg.

Mo., St. Louis—F. A. Scheperle, 5920 Marwinette St., erect 2 dwellings, 5541-45 Goethe St.; brick, 2 stories and basement, 25x30 ft., hardwood floors, tile baths, comp. roofs, hot air heat; \$18,000; work by sub-contract.

Okl., Oklahoma City—W. R. McWilliams, 1916 West 18th St., erect \$20,000 residence; brick veneer, 2 stories and basement, 26x30 ft.; W. J. Laws & Co., Archts., First National Bank Bldg.; Glen O. Laws, Contr., 1309 W. 10th St.

Okl., Oklahoma City—A. R. Blackwood, 1004 West 32nd St., started work on \$12,000 duplex, 1232 W. 36th St.; brick veneer, 2 stories.

Tenn., Memphis—J. D. Scott, 1201 Minna Place, erect 2 duplexes, Jackson Ave. and 1 on N. Evergreen St.; brick veneer, 1 story and basement, oak floors, tile baths, comp. shingle roofs; \$17,000; owner builds.

Tex., Houston—C. L. Leach, 80th District Court, erecting \$11,000 Colonial residence, Dowling St. and Riverside Drive; 2 stories, brick veneer; Eugene B. Church, Archt., First National Bank Bldg.; E. W. Leach, Contr.

W. Va., Charleston—Dr. Hugh Thompson, 1631 Quarrier St., let contract on cost plus basis to A. G. Higginbotham, Charleston Natl. Bk. Bldg., for \$22,000 residence, Thomas Drive; red brick, stone trim, 3 stories, steel casement windows, hardwood, linoleum and tile floors, brick foundation, Buckingham slate roof; furnishings, equipment, etc., \$3000; Warne, Tucker, Silling & Hutchinson, Archts., Masonic Bldg. See Want Section—Building Material and Equipment. 6-12

Government and State

Ark., Searcy—Arkansas National Guard, Little Rock, let contract at \$18,850 to Byrd Construction Co., Searcy, for army; brick and conc., 1½ stories, about 75x115 ft.; Durward F. Kyle, Archt., National Bank Bldg., Pine Bluff.

Va., Fort Myer—Constructing Quartermaster, Munitions Bldg., Washington, D. C., let contract at \$13,700 to Bahen & Wright, 916 Rhode Island Ave., N. E., Washington, for stable, Fort Myer. 5-22

Hospitals, Sanitariums, Etc.

Miss., Meridian—Mississippi Building Company, W. C. Trotter, Sec., New Capitol Bldg., Jackson, let contract at \$5054 to Williams & Camp, Meridian, for repairs, East Mississippi State Hospital; wiring, \$500, and heating, \$1625, Alonzo B. Hayden, Inc., Pass Christian; R. C. Springer, Archt., Rosenbaum Bldg., Meridian. 5-29

Tex., Galveston—W. A. Kelso, Inc., 2215½ C St., Galveston, has excavation contract for \$750,000 Marine Hospital; pile driving, E. A. Whitney & Son, City Bank Bldg., Kansas City, Mo.; Ring Construction Co., Gen. Contr., 95 S. 11th St., Minneapolis, Minn. 5-15

Hotels and Apartments

Ark., Little Rock—E. N. Petit, 114 E. Seventh St., erect brick apartment house, 18th and Park Sts.; 2 stories, hardwood floors, tile baths, tile roof, misc. iron and steel work; B. L. Ullmen, Contr., 210 N. Pine St.

Fla., Daytona Beach—Henry W. Haynes erect \$50,000, 3-story, frame and stucco addition to Princess Isabella Hotel; asphalt-slate shingle roof; tile, terrazzo, conc. and wood floors; E. F. De La Haye, Jr., Archt.-Engr., Shelly Bldg.; owner builds, day labor; plaster and stucco, John S. Graham, 107 Vanderbilt St.; flooring, Steward-Mellon Co., Orlando; elevators, Otis Elevator Co., 225 Liberty St., Jacksonville; sprinklers, Grinnell Co., Phillips Bldg., Orlando; plumbing and heating, A. B. Moore Co., 11 E. Fairview Ave., Daytona Beach. 6-12

Fla., Miami Beach—Following subcontracts let on \$125,000, 5-story, 100x80 ft., 100-room, rein. conc. and steel hotel being erected at 14th St. and Ocean Drive by Van Ness Bros., 116 14th St.; Blake Plumbing Co., 4th St., N. E., Miami, plumbing, Platt Oil Burner, oil burner heater, 750 gal. tank, 2950 gal. cypress tank on roof; Brill Electric Co., 529 Collins Ave., Miami Beach, electric work; Otis Elevator Co., 235 N. W. Second Ave., Miami, elevator; Metal Products Co. of Miami, Inc., 60 N. E. 27th St., iron work; Dade Tile and Marble Co., tile work; Harrington Co., painting; Drake Lumber Yards, Inc.,

1800 N. Miami Ave., millwork; I. E. Schilling Co., 125 N. E. Sixth St., rein. steel, all Miami; Gyp block and hollow tile, sand and rock, Sheetrock and Simplex partitions; hardware and light fixtures by owners, not let; O'Neill and Orr Construction Co., Contr., 212 N. E. Fourth St., Miami; R. A. Preas, Archt., 325 23rd St., Miami Beach.

Fla., Lake Worth—William Cowan erect \$60,000, hollow tile and frame, 30-cooperative apartment, Lakeside Drive and 11th St.; tile roof; Sherman L. Tuppen, Contr.

Fla., Miami Beach—Carlos B. Schoeppl, 528 Lincoln Road, let contract to Jesse P. Montz, 8238 N. E. Ninth Ave., Mima, for \$12,000, 2-story, rein. conc., conc. block and stucco, 4-apartment, Royal Palm Ave. and 29th St.; tile roof, oak and tile floors; plans by Mr. Schoeppl and John & Coulton Skinner, French Village, LeJeune Road, Coral Gables, Asso. Archts.

Fla., Miami Beach—S. T. Corydon, 5909 Kenmore Ave., Chicago, Ill., let contract to J. P. Neilsen, Miami, for \$25,000, 2-story, 104x34 ft. rein. conc., conc. block and stucco, 4-apartment, Pine Tree Drive and 42nd St.; Carlos B. Cchoeppl, 528 Lincoln Road, Miami Beach, and John and Coulton Skinner, French Village, LeJeune Road, Coral Gables, Asso. Archts. 6-12

Fla., Miami Beach—Barbara T. Ring, Arlington, Mass., start work in about three weeks on \$15,000, 60x30 ft. apartment, 30th St. and Royal Palm Ave.; owner builds; Carlos B. Schoeppl, 528 Lincoln Road, Miami Beach, and John and Coulton Skinner, French Village, LeJeune Road, Coral Gables, Asso. Archts.

Ga., Atlanta—H. W. Nicholes, 142 Brighton Road, N. W., has permit for \$15,000, 2-story and basement, brick veneer, 15-apartment, 160 Tenth St., N. E.; comp. roof; owner builds.

Ga., Atlanta—O. T. Hennessey, 683 Juniper St., N. E., erect \$22,000, 2-story and basement, brick, 20-apartment, 1066 Piedmont Ave., N. E.; tar and gravel roof, hardwood and tile floors, steam heat; owner, Archt.-Bldr.

Ky., Pikeville—O. A. Stump, started work on 24-room brick addition to Anthony Hotel.

Mo., St. Louis—B. Berlinger, 3414 Indiana St., erect \$10,000 tenement, 3416 Indiana St.; brick, 2 stories, 32x49 ft., shingle roof, hot air heat; Adolph Stauder, Archt., South Side Natl. Bk. Bldg.; Henry Beetz & Sons, Contrs., 2668 Nebraska St.

N. C., Charlotte—Mecklenburg County Land Corp., Kenneth Murchison, Archt., 101 Park Ave., Pres.; Willis W. Jourdin, of W. W. Jourdin & Co., 175 Fifth Ave., V.-P.; Frank Z. Temerson, Sec.-Gen. Mgr.; Wm. H. Gompers, 101 Park Ave., all New York; let contract to J. A. Jones Construction Co., Commercial Bank Bldg., Charlotte, and plans to begin work between July 15 and Aug. 1 on \$1,750,000, 17-story hotel and theatre, Tryon and Third Sts.; hotel to be known as Hotel Independence to contain 308 rooms and roof garden; 12 stores and assembly room on ground floor; theatre to seat 2850 people; ultimate plans call for 250-room hotel addition and 10-story office building above theatre; plans will be prepared by Mr. Murchison and Mr. Gompers.

Okl., Guymon—Hotel Development & Construction Co. of Kansas, W. L. Elson, Pres., Wichita, Kans., and Kansas City, Mo., reported, considering erecting 6-story, rein. conc. and brick, fireproof hotel; Nelle Peters, Archt., 114 W. 10th St., Kansas City, Mo.

Okl., Oklahoma City—Following subcontracts awarded on 4-story addition and remodeling 6-story building, First St. and Hudson Ave., for hotel for Jas. S. Gladish, Oklahoma Savings Bank Bldg., for which C. E. Huffman & Son, Southwestern Natl. Bank Bldg., have general contract; Stone, Algonite Stone Manufacturing Co., E. Park and Irving Sts.; steel, J. B. Klein Iron & Foundry Co., 1004 W. Second St., heating and plumbing, O. N. Gabey, 1309 N. Broadway; wiring, Oklahoma Electric Supply Co., 209 W. First St.; Hawk & Parr, Archts., Hales Bldg. 5-15

Tex., Dalhart—Dalhart Hotel Co., plans to incorporate, W. H. Latham, Geo. Ely, O. H. Finch, and others, members; erect 100-room Rita Blanca Hotel, probably Fourth and Denver Sts.; 6 stories; V. E. Shanglin, Archt.; Dee Humphrey Construction Co., Burt Bldg., both Dallas; financing.

Miscellaneous

Fla., Miami Beach—Surf Club, Inc., Maj. I. Barton, Sec., reported, let contract to John B. Orr Construction Co., N. E. 6th St., Miami, for clubhouse, restaurant, cabanas, swimming pool and lockers, 90th St. and Ocean; \$500,000; Russell T. Pancoast, Archt., Lincoln Road, Miami Beach. 6-12

Ga., Columbus—J. T. Cooper, 1240 Wynn-ton Dr., let contract to Cooper Lumber Co., 12th Ave., for \$15,000, 1-story, brick veneer funeral home, 13th St. between 10th and 11th Aves.; T. Firth Lockwood, Archt., Murrah Bldg.; D. A. Striffler, Inc., Lessee. 6-5

La., New Orleans—St. John Berchman Society erect \$20,000, brick and frame fraternity house, 1047 N. Miro St.; slate roof; Jos. Arceneaux, Contr., 1671 N. Miro St.

La., Shreveport—McCook Brothers, 803 Cotton St., let contract at \$44,387 to J. M. Brown, Ricou-Brewster Bldg., for 2-story, rein. conc. and brick funeral home, Fairfield Ave. and Jacobs Sts.; Jones, Roessle, Olshner & Weiner, Archts., Ardis Bldg. 6-5

Tenn., Memphis—Reneo Devenaux, Claridge Hotel, erect \$15,000 night club, Castalia St.; brick, 1 story, about 60x90 ft., hardwood floors, comp. flat roof; Dan Kuhlman, Contr., 2013 Courtland St.; completing plans.

Railway Stations, Sheds, Etc.

Ky., Owensboro—Louisville & Nashville R. R., R. H. Courteney, Ch. Engr., Louisville, plans to start work about July 1 on \$25,000, 2-story brick addition to union station; bids in. 2-27

Schools

Ala., Alexander City—School Bd. erect high school auditorium, 1-story, 70x130 ft., brick, stone trim, comp. roof, steam heat; Miller & Martin, Archts., Title Guarantee Bldg., Birmingham; White Lumber Co., Contr., at \$29,987.

Ala., Mobile—Mobile County Bd. of School Commrs., Leo F. Eldridge, Pres., let contract at \$19,180 to F. D. Kimbrough, Pine Hill, for 4-classroom addition to Woodcock School; Owen & Clark, Archts., Merchants Bank Bldg.; at \$39,831 to Dyson & Lawrence, Fairhope, for 12-classroom addition to Alba School, Bayou la Batre; J. P. Roberts, Archt., First Natl. Bank Annex. 6-5

Ark., Bright Star—Bright Star Consolidated School Dist., Otto Forehand, Miller County Supt. of Schools, Texarkana, let contract at \$29,312 to Tom Wilmoth, Camden, for 1-story, brick and conc., 10-classroom and auditorium school; plans by State Dept. of Education, Statehouse, Little Rock. 5-22

Ark., Little Rock—School Bd., 800 Louisiana St., let contract for Robert E. Lee School annex to C. R. Carty, 217 N. Beech St.; plumbing and heating to Pfefer Plumbing Co., 717 Main St.; electric wiring to Electric Construction Co., 8th and Main Sts.; Tom Harding, Archt., 1416 Donaghey Bldg.

Ark., Newport—Newport Special Dist. School Bd., F. A. Stuart, Sec., let contract to William Peterson, Donaghey Bldg., Little Rock, for \$25,000, 2-story, rein. conc., brick, fireproof, 16-classroom junior and senior high school; auditorium and gymnasium to seat 1000; Thompson, Sanders & Ginoecchio, Archts., Hall Bldg., Little Rock. 5-22

Fla., Davis, R. D. from Dania—Broward County Bd. of Public Instruction, Fort Lauderdale, soon start work on conc. and hollow tile school; Clarence Wait, Contr., 2901 S. W. Seventh St., Miami.

Ga., Atlanta—Fulton County Bd. of Education, Jere Wells, Supt., let contract at \$15,100 to Gates Bros., College Park, for 1-story and basement, 53x123 and 44x35 ft., brick school; comp. roof; Wm. J. J. Chase, Archt., 140 Peachtree St., N. E. 5-29

Ga., Atlanta—Georgia School of Technology, Dr. M. L. Brittan, Pres., let contract at \$86,150 to Brazell & Miller, Norris Bldg., for 2-story and basement, 95x75 ft., rein. conc., brick and tile, stone trim aviation building; Bush-Brown & Bailey, Archts., care Georgia School of Technology. 6-12

Ga., Clarkdale — Bd. of Education erect \$40,000, brick school; comp. roof; Lockwood & Poundstone, Archts.; Edw. F. Billie, Asso. Archt., both Marietta Bldg., Atlanta; C. G. Griffin, Hartwell, will superintend construction. 4-17

La., Jackson—East Feliciana Parish School Bd., P. H. Dupuy, Sec., Clinton, let contract at \$35,750 to Clifford H. King, Prescott Lane, Baton Rouge, for brick high school; built-up comp. roof; Herman J. Duncan, Archt., 120 Murray St., Alexandria. 6-5

Ky., Harrodsburg—Clell Coleman & Sons, Contrs., Burgan, started brick work at \$21,500 school addition; brick, steel joist, wood floors, built-up roof, Celotex insulation, 2 stories, 57x63 ft., conc. foundation; Nevins, Morgan & Kolbrook, Archts., Starks Bldg., Louisville. 5-8

Md., Baltimore — Following sub-contracts awarded on \$200,000, 4-story dormitory and classroom addition under construction

(steel) and conc. work up to second floor) at St. Mary's Seminary for which The M. A. Long Co., 10 W. Chase St., has general contract; Caulking, Perma-Tite Waterproofing Co., 12 W. Madison St.; sand and gravel, The Arundel Corp., Pier No. 2, Pratt St.; cement, National Building Supply Co., 210 Garrison Lane; electrical work, John F. Heath, 213 N. Calvert St.; granite, David M. Andrew Co., 26th and Sisson Sts.; heating, Lloyd E. Mitchell Co., Inc., 915 E. Monument St.; glass, Swindell Brothers, 600 S. Caroline St.; millwork, Helise & Bruns Mill & Lumber Co., 600 S. Caroline St.; plastering, lathing, H. W. Podolsky, 4903 Liberty Heights Ave.; sheet metal and slag roof, W. A. Fingles, Inc., Elgin Ave. and Reisterstown Road; waterproofing, The Par Lock Appliers of Maryland, 613 W. Cross St.; plumbing, Frank J. Knell, 220 W. North Ave.; rough hardware, Hubbard & Eagleston, 120 W. Baltimore St.; struc. steel, Maryland Steel Products Co., Standard Oil Bldg.; tile, Maryland Lime & Cement Co., Inc., Oak and 24th Sts.; brick work, Cory Masonry Corp., 10 W. Chase St.; tile, marble, slate, terrazzo work, Jos. B. Dunn & Sons, Inc., 853 N. Howard St.; orna. iron and misc. ironwork, Dietrich Brothers, Pleasant and Davis Sts.; linen chute, Hallett Chute & Conveyor Co., American Bldg.; elevator, Otis Elevator Co., 210 S. Paca St.; glazing, George H. Dashiella, 3513 Claremont St., all Baltimore; cork floors, David E. Kennedy, Inc., 16 E. 52nd St., New York; hydrated lime, Stebbins Anderson Co., Towson, Md.; limestone, Ingalls Stone Co., Bedford, Ind.; rein. steel, Penn Steel Service Co., Fuller Bldg.; gypsum roof, Lathrop-Hoge Gypsum Co., 1700 Samson St., both Philadelphia; slate roof, G. F. Hobel, Woodlawn, Baltimore; Maginnis & Walsh, Archts., Statler Bldg., Boston, Mass. 4-17

Miss., Duncan—Bd. of School Trustees let contract at \$31,910 to W. R. Ellis, Clarksdale, and started work on 2-story, 224x55 ft., brick school; asphalt roof; wood floors; 10 classrooms, auditorium to seat 400; Hull & Malvaney, Archts., Merchants Bank Bldg., Jackson. 6-12

Miss., Woolmarket, R. D. from Biloxi—School Bd., C. H. Emerich, let contract at \$17,950 to E. G. Lawley, Gulfport, for 1-story, rein. conc. and brick, 7-classroom school; John T. Collins, Archt., Biloxi. 5-22

N. C., Lexington—Davidson County Bd. of Education, S. G. HaHsty, Supt., let contract at \$49,359 to Moss and Marlowe, Hickory, for Union school for Group 11, located on Younts site on Holly Grove-Hannersville Rd.; H. C. Cline, Hickory, was awarded contract at \$17,000 for elementary school of group, located on Ingram site, at crossing of Highways 90 and 109; heating for both awarded Acme Plumbing and Heating Co.; plumbing to H. C. Davis, both Lexington. 5-29

N. C., Wilmington—Following sub-contracts awarded on Williston Industrial School for which U. A. Underwood, Inc., Murchison Bldg., has general contract at \$118,663: Electric, Electric Maintenance Co.; roofing, Hanover Iron Works, both Wilmington; terra cotta, Atlanta Terra Cotta Co., East Point, Atlanta, Ga.; steel, Dewey Bros., Goldsboro; Lynch & Foard, Archts., Southern Bldg. 6-12

Okla., Adams—Bd. of Education erect \$30,000, 1-story, 75x200 ft., brick school; W. O. Green, Contr., Okemah; The Huseman Co., Archt., Chickasha.

Okla., Altus—Bd. of Education, let contract to H. W. Underhill Construction Co., Braniff Bldg., Okla. City, for \$150,000, 2-story, brick, 16-classroom high school; let contract to Stanley Carmon, Ardmore, for \$40,000 grade school; Tonini & Bramblett, Archts., 416 W. Main St., Oklahoma City. 5-29

Okla., Hardesty—Bd. of Education, M. B. Crawford, erect brick and stone school; W. O. Green, Contr., Okemah; The Huseman Co., Archt., Chickasha.

Okla., Guthrie—Bd. of Education, Claude McVickers, Clk., erect \$10,000 gymnasium and auditorium building; 1 story, 57x100 ft., brick, stone and rein. conc.; Sherer Construction Co., Contr., Guthrie; Edw. L. Gahl, Archt., Perrine Bldg., Oklahoma City.

Okla., Oklahoma City—Following sub-contracts awarded on \$132,000, 2-story, 18-classroom, brick, stone and rein. conc. Heronville School for which H. W. Underhill Construction Co., Braniff Bldg., has general contract: Millwork, Oklahoma Sash & Door Co.; brick, United Brick & Tile Co., Petroleum Bldg.; stone, O. K. Cut Stone Works, 716 W. Second St.; steel, Capitol Steel & Iron Works Co., 815 S. Broadway; hardware, A. G. Hoge Hardware Co., 706 N. Broadway; work started; Layton, Hicks & Forsyth, Archts., Braniff Bldg. 5-22

Okla., Tulsa—Bd. of Education let contract at \$21,840 to Rucks-Brandt Construction Co.

for cafeteria at Theodore Roosevelt School; 60x90 ft., accommodate 350 students.

Okla., Tulsa—Grinnell Heating & Plumbing Co., Court Arcade Bldg., has contract for heating and plumbing and Dodge Electric Co., 318 S. Boulder St., wiring for \$250,000, 82x450 ft., rein. conc. stadium at University of Tulsa, for which Manhattan Construction Co., Court Arcade Bldg., Tulsa, and Manhattan Bldg., Muskogee, has general contract; seat 14,500 people; Smith & Senter, Archts., Philtower Bldg. 5-29

S. C., Jonesville—Jonesville School Trustees let contract to E. J. Gibson & Son for \$45,000 high school; contract to Carolina Construction Co. to remodel present school for grammar grades; J. G. Cunningham, Archt., all Greenville.

S. C., Jonesville—Jonesville School Dist. No. 12, C. A. Littlejohn, Sec., let contract for high school to E. J. Gibson & Son, 58 Rutherford Ave., Greenville; heating and plumbing to Waldrop Heating and Plumbing Co., Rock Hill; 1 and 2 stories, 138x150 ft., brick, comp. shingle roof, conc. and brick foundation, oak floors; J. G. Cunningham, Archt., 20 N. E. Coffee St., Greenville; Carolina Construction Co., Walker Bldg., Greenville, was awarded contract to remodel present school. 6-5

S. C., Kershaw—Bd. of Education let contract at \$22,700 to J. J. Seastrunk, Leesville, for 2-story, brick, 6-classroom and auditorium school; Julian S. Starr, Archt., Rock Hill.

Tenn., Bristol—School Bd. let contract at \$10,875 to Glover, Caldwell Co. for grammar school, Albama St. and College Ave.; G. M. & G. C. Stone, Archts.

Tenn., Dickson—Bd. of Education, W. E. Luther, Supt., let contract at \$52,520 to Cowan Lumber & Planing Mill Co. and started work on addition and improvements to Dickson High School; 2 wings, 40x75 ft.; gymnasium, 60x75 ft. 2 stories, brick, wood floors, built-up roof, brick foundation; Dougherty & Gardner, Archts., Cotton States Bldg., Nashville. 5-29

Tenn., Joelton—School Board erect \$40,000 high school; receiving bids.

Tenn., Memphis — LeMoyné Institute, 807 Walker Ave., let contract at about \$14,000 to E. G. Hodges, Cotton Exch. Bldg., for addition to academic bldg.; brick, rein. conc., 1 and 2 stories, 3 wings; Geo. Awasumb, Archt., Dermon Bldg.

Tenn., Morristown—Mayor and Bd. of Aldermen let contract for \$17,000 negro school, N. Cumberland St., to W. H. Taylor & Son; 8 rooms.

Tex., Austin—State Bd. of Control, Claude Teer, Chmn., let contract at \$36,860 to J. J. Wittinger, Scarbrough Bldg., for 2-story, 32x150 ft., brick, hollow tile, fireproof dormitory No. 12; H. F. Kuchne, Archt., Littlefield Bldg. 5-29

Tex., Brackettville — Brackettville Ind. School Dist., O. L. St. John, Pres., let contract to W. W. Brown, 1718 W. Gramercy St., San Antonio, for 1-story, brick and conc., fireproof school and remodeling present building; Henry T. Phelps, Archt., Hicks Bldg., San Antonio. 6-5

Tex., Eagle Pass—Eagle Pass Ind. School Dist., J. K. Sanford, Pres., let contract at \$64,000 to C. C. Calvert for 1-story, 4-classroom high school addition and 1-story, 17x83 ft., 8-classroom and auditorium ward school; both brick, tile, stucco, steel and rein. conc.; conc. and wood floors; Page Brothers, Littlefield Bldg., Austin. 6-5

Va., Rustburg—Campbell County School Bd. let contract at \$21,700 for 6-room Forest Hill School, and at \$43,430 for Mountain View School to W. L. Brown, Appomattox.

W. Va., Marmet—Loudon Dist. Bd. of Education, R. H. Dunn, Member, Charleston, let contract to R. A. Sutter, St. Albans, for Junior High School; \$100,000, 18 classrooms, gymnasium, auditorium, brick and stone; Wyson, Bengston & Jones, Archts., Professional Bldg., Charleston. 5-22

W. Va., Bluefield—State Bd. of Control, Henry N. Bradley, Pres., Charleston, let contract at \$11,495 to W. J. Hendricks, 218 Reese Ave., Bluefield, for president's residence at Bluefield Colored Institute; 2 stories and basement, 44x29 ft., brick; Garry & Sheffey, Archts., Bailey Bldg. 5-29

Stores

D. C., Washington—B. D. Darling, 906 H St., erect \$25,000, 2-story, brick store and apartment, 906-08 H St.; Kuldell Bros., Contrs., 3615 Davis St. 6-5

Fla., Lake Placid—E. C. Stuart, 120 N. Central Ave., Bartow, excavating for \$15,000 addition to Stuart Arcade, Main St.; stucco on tile, pine and conc. floors, comp. built-up roof; Albinson & Co., Contrs., 185 E. Main St., Bartow.

Fla., Miami—Wright & Co., expend \$10,000 for alterations to building, 60 N. E. First St.; St. John Construction Co., Contr., 629 N. W. 7th St.

Fla., Miami—Arthur Hollopeter, 151 N. E. Third St., let contract to Holmes & Bristol, Miami, for 1-story, 50x30 ft., rein. conc., conc. block and stucco store, 17th Ave. near 27th St.; Carlos B. Schoeppl, 528 Lincoln Road, Miami Beach, and John and Coulton Skinner, French Village, LeJuene Road, Coral Gables, Asso. Archts. 5-15

Ga., Atlanta—L. A. Stow, Stewart Drive erect 1-story and part basement, brick store, Peachtree St. and 10th St., N. E.; built-up roof; day labor.

Ga., Rome—O. C. Lam let contract to Charles Blackstock for 2-story and basement, brick and steel store on Broad St.; cement, tile and wood floors, vitrolite trim; Tucker & Howell, Inc., Archts., Rhodes Haverly Bldg., Atlanta. 6-5

La., Shreveport—McCrorry Stores Corp., 1107 Broadway, New York, let contract to W. Murray Werner, 602 Oneonta St., for \$100,000, 2-story, 40x150 ft., brick, steel, stone trim store, 514 Texas St.; W. M. Simpson, Supvg. Archt. 5-29

Miss., Hattiesburg—G. L. & G. C. Hawkins, 824 Main St., remodel 2-story building on Mobile St.; convert into 1-story structure; new roof, new front show window, stucco exterior, new fixtures, replaster, new elec-

tric work; Juan G. Landry, Archt., Connecticut Bldg.; W. L. Phillips, Contr.; to be leased to J. S. Turner & Co.

Mo., St. Louis—A. W. Clark, 3713 Washington St., erect \$35,000, 4-story, 30x70 ft., brick store and office; steam heat, conc. roof; Wm. H. & Nelson Cunliff Co., Contr., 3327 Lindell Blvd.; W. P. Manske & Associates, Archts., 4064 Olive St.

Okla., Tulsa—H. L. First, Tulsa Tr. Bldg., erect \$35,000 store and lodge rooms; 2 stories, 80x140 ft., brick and tile; J. W. Van Horn, Contr., 526 S. Kenosha St.; Leland I. Shumway, Archt., Alexander Bldg.

Tenn., Chattanooga, Knoxville and Nashville—Standard Brands, Inc., Birmingham, Ala., let contract to Mackie Building Co., 615 S. 27th St., Birmingham, for 3 stores, Chattanooga, Knoxville and Nashville; total \$125,000.

Tex., Fort Worth—Ned Lydick, 2201 Windsor Place, erecting \$50,000, 150x80 ft., brick and tile store, 3032 Hemphill St.; Mobley & Delaney, Contrs., Texas National Bldg., Chas. Armstrong, Archt. 6-12

Tex., Houston—Ray Prince erect \$10,000, 1-story, hollow tile and stucco, 2-store, 3515-17 Milam St.; G. C. Christian, Contr.

Tex., Lubbock—J. D. Doughty and associates, Weatherford, erecting \$35,000, 2-story, 75x125 ft., brick and tile store and office building; starting walls; 10 stores and 15 offices; J. B. Davies, Archt., 1308 Hemphill St., Fort Worth.

Theatres

Mo., West Plains—Catron Estate, care H. C. Kellet, erect \$50,000 theatre, W. Main St., by day labor; lease to Dean W. Davis; brick, steel, rein. conc. and terra cotta, fireproof, 120x40 ft.; Boller Brothers, Archts., 114 W. Tenth St., Kansas City. 4-17

Tex., Palestine—R. & R. Theatre Enterprises, 2009 Jackson St., Dallas, soon start work on \$100,000, stone and conc. theatre on site of Best Theatre; William Kraus, Contr.; W. Scott Dunne, Archts., Melba Bldg., Dallas. 4-3

Warehouses

Ga., Macon—Central of Georgia Ry., C. E. Weaver, Ch. Engr., Savannah, let contract to M. E. Shaw Contracting Co., Box 871, for 1-story, 86x90 ft., brick and frame warehouse to be leased to National Biscuit Co., 85 9th Ave., New York, and Macon; wood floors, built-up roof. 5-22

La., New Orleans—Anthony Monjure, 3023 Gen. Taylor Ave., erect brick warehouse on S. Rampart St. between Calliope and Clio Sts.; Geo. J. Lupo, Contr., 4925 S. Tonti St.

Md., Baltimore—Baltimore Wholesale Grocery Co., 809-17 Granby St., erect 2-story addition and remodel warehouse; \$50,000; Lach Construction Co., Contr.; B. Evander, Archt., 20 E. Lexington St. 5-15

THE CLASSIFICATIONS IN THIS SECTION ARE:

WANT SECTION

Machinery and Supplies

Under this heading are reported requests for data, prices and literature and information on machinery, supplies and miscellaneous materials of a wide variety.

Building Materials and Equipment

This division comprises all classes and kinds of materials and equipment used in building and construction projects of every kind.

Bids Asked

Includes bids asked by U. S. Government, States, districts, municipalities, firms and individuals for machinery, materials, supplies and construction work.

Items in this department are published without charge and these columns are open for the publication of wants of all kinds relating to construction work, machinery, materials and supplies.

Machinery and Supplies

Boilers, etc.—Biltmore Conservation Corp., O. W. Wahlstrom, Gen. Mgr., P. O. Box 817, Petaluma, Calif. has contract with City of Dallas, Tex., for \$225,000 garbage reduction plant—Wants prices and data on two 300-h. p. boilers, water tube, 200% rating, complete with water heater, fuel oil and gas burners, automatic water and burner control, to include all piping and brick work and to be completely installed and ready for operations, constructed in accordance with latest A. S. M. E. code and Dallas ordinance; 150-lb. w. p.

Ginning Machines (Spanish Moss).—M. L. Wread, Box 962 Miami, Fla.—Wants prices and data on ginning machines for Spanish hair moss.

Highway Equipment and Material.—M. Hernandez Corral, Apartado de Correos 523, Madrid, Spain.—Wants prices on highway building equipment and material.

Markers (Highway and Street).—Dorsey Bros., J. V. Wright, Elba, Ala.—Wants prices and data on markers for highway and street intersections.

Nevadun Lumber Co., Hardenville, S. C.—Wants prices and data on following:

- (1) **Boiler**—150 h. p., for small circular sawmill, must past Hartford or F. & C. inspection, with or without stack, for delivery on Seaboard Air Line Ry., Murad, S. C., for Phillips Siding.
- (2) **Planer**—Woods, 404B or American equivalent
- (3) **Resaw**—54 in.

Pile Hammers (Steam).—Lewter F. Hobbs, Inc., (Mchy. Dealer), McKevitt Bldg., Norfolk, Va.—Wants prices and data on 2 or 3 No. 0, Vulcan, steam pipe hammers.

Presses (Newspaper).—Mountaineer Co., Fred Wolfe, Editor, Ripley, W. Va.—Wants prices and data on newspaper presses, 8 and 12-page weekly paper having 3000 to 4000 subscribers.

Sunflower Cotton Oil Co., H. M. Trice, Mgr., Indianola, Miss., wants prices on following:

- (1) **Exhaust Fans**
- (2) **Hull Packers (Cotton Seed)**
- (3) **Motors**
- (4) **Sprinkler System (Automatic).**

W. M. Smith & Co. (Mchy. Dealer), 4601 First Ave., North, Birmingham, Ala.—Wants prices and data on following.

- (1) **Band Mill**—18 ft., with or without carriage
- (2) **Crane (Locomotive)**—15 or 20-ton capacity, 50-ft. boom, not more than 10 or 12 years old
- (3) **Lifting Magnet**—mushroom type, 42-in. diam. or larger
- (4) **Wheel Press**—150 to 200 lb. capacity.

W. Karl Harris, Box 426, Lockhart, Tex., has perfected automatic, springless and bearingless scale, having involute cam which does not have to carry any strain or stress—Wants to contract with firm in position to die-cast these cams.

Miscellaneous

Baseball Bats.—Jackson Mill Co., Jackson, Ala.—Wants prices and data from manufacturers of baseball bats.

Casket Supplies.—Pee Dee Casket Mfg. Co., C. Rhinehart, Florence, S. C.—Wants prices and data on casket supplies, such as hardware and covering materials.

Fomentation Pad.—Edith Crum, 12 Autrey Arcade, Orlando, Fla.—Wants prices and data from manufacturer of electric, moist fomentation pad.

Jars (Glass).—J. P. Mendel, Stuart, Fla.—Wants prices and data from manufacturers of glass fruit preserve jars.

Building Material and Equipment

Dr. Hugo Thompson, 1631 Quarrier St., Charleston, W. Va., wants prices on following for \$22,000 residence:

- Cast Stone
- Flooring—hardwood, linoleum
- Limestone (fireplace)
- Rolling Partitions.

Hassel T. Hicks, Archt., Welch, W. Va., wants prices on following for 6 classrooms additions to schools at Keystone and Maitland, W. Va.:

- Cast Stone
- Flooring—hardwood
- Roofing Partitions
- Roofing (flat)—built-up
- Tile—hollow
- Ventilators.

Edward W. Peters, Danville, Pa., wants prices on:

Timbers—18,000 bd. ft., used, preferably 12x12, but will consider other sizes.

McMillan & Shelton, Contrs., Enid, Okla., want prices on following for 11- to 14-story office bldg.:

- Elevators
- Flooring—terrazzo.

Rohan Co. of Florida, Palm Beach, Fla., wants prices on following for \$250,000 dwelling remodeling and addition, Palm Beach:

- Electric Refrigerators
- Flooring—linoleum, terrazzo, tile composition
- Incinerator
- Roofing—built-up, tile
- Tile—hollow, interior.

Texas Tinners Supply Co., 812 McCall St., Houston, Tex., wants prices on:

Paints and Cements (Roofing)—in standard packages, 1 c. 1.

Wm. Lambert Construction Co., 1812 W. 16th St., Oklahoma City, Okla., wants prices on following for \$60,000 school in Bartlesville, Okla.:

- Flooring—tile
- Marble

John W. Cowper Co., Inc., State Planters Bk. Bldg., Richmond, Va., estimating on \$700,000 to \$800,000 Federal Reserve Bank addition, Richmond, bids June 24, desires sub-bids and material prices by June 21; Taylor & Fisher, Archts., Balto. Tr. Bldg., Baltimore, Md.

S. Papathanassopoulos & Co., Rue de L'Archeveche, No. 4, P. O. Box 465, Alexandria, Egypt, import-export merchants and commission agents—Want to represent American firms producing building materials such as roofing and floor materials, building hardware, wall coverings, paints, tile, bath appliances and new articles recently released.

W. M. Smith & Co., Mchy. Dealer, 4601 First Ave., North, Birmingham, Ala., wants prices on:

Steel Building—300 to 400x100 ft., for Louisiana delivery.

Bids Asked

Aerial Photography.—U. S. Engr. Office, Louisville, Ky.—Bids July 2 for aerial photographs of portion of Ohio River.

Asphalt.—Marine Corps, Q. M. Dept., Washington, D. C.—Bids June 23 for 1250 gal. asphalt, delivery Quantico, Va.

Blanco (Khaki).—Marine Corps, Q. M. Dept., Washington, D. C.—Bids June 24 for 20,000 cans khaki blanco, delivery Philadelphia, Pa.

Bridge.—State of Louisiana. See Construction News—Bridges, Culverts, Viaducts.

Bridges.—State of South Carolina. Bids for 13 bridges. See Construction News—Bridges, Culverts, Viaducts.

Bridge.—Cambridge, Md. See Construction News—Bridges, Culverts, Viaducts.

Bridges.—State of Maryland. Bids for 3 bridges. See Construction News—Bridges, Culverts, Viaducts.

Bridge.—Kensington, Md. See Construction News—Bridges, Culverts, Viaducts.

Cement.—U. S. Engr. Office, Nashville, Tenn.—Bids June 24 for 10,000 sacks cement.

Cable.—Marine Corps, Q. M. Dept., Washington, D. C.—Bids June 23 for 1550 ft., telephone cable, delivery Quantico, Va.

Covering (Pipe).—Marine Corps, Q. M. Dept., Washington, D. C.—Bids June 26 for pipe covering for 50 ft. pipe and fittings, delivery Quantico, Va.

Culverts.—New Roads, La. Bids for 12 culverts. See Construction News—Bridges, Culverts, Viaducts.

Diesel Engines.—Panama Canal, Office of Gen. Pur. Officer, Washington, D. C.—Bids July 7 for diesel engines, Sch. 2566.

Dump Bodies.—Marine Corps, Q. M. Dept., Washington, D. C.—Bids June 25 for 2 dump bodies, delivery Quantico, Va.

Furniture (School).—Blenville Parish School Bd., E. H. Fisher, Supt., Ringgold, La.—Bids July 10 for furniture for Ringgold High School.

Gas-Burning Equipment.—Div. and Post Quartermaster, Fort Sam Houston, San Antonio, Tex.—Bids June 23 for furnishing and installing gas-burning equipment in boilers.

Gasoline and Oil.—U. S. Property and Disbursing Officer, Militia Bureau, Little Rock, Ark.—Bids July 1 for 112,000 gal. gasoline, 4400 gal. engine oil and 275 gal. lubricating oil.

Heating System.—Supervising Archt., Treasury Dept., Washington, D. C.—Bids July 8 for installing complete new steam heating system and removing present gas-steam radiation, U. S. post office, St. Petersburg, Fla.

Heating Systems.—Div. and Post Quartermaster, Fort Sam Houston, San Antonio, Tex.—Bids June 23 for heating systems.

Lamps (Incandescent).—Bd. of Awards, Office of City Register, City Hall, Baltimore, Md.—Bids June 26 for incandescent lamps.

Levee.—U. S. Engr. Office, P. O. Box 667, Vicksburg, Miss.—Bids June 25 for constructing approx. 608,000 cu. yd. earthwork, Mississippi River, Miss. See Construction News Columns—Miscellaneous Construction.

Lubricating Oils.—State of South Carolina, Columbia, S. C.—Bids June 27 for lubricating oils for maintenance forces during period from date of award to Dec. 31, 1930.

Lumber.—U. S. Engr. Office, Kansas City, Mo.—Bids June 24 for 1,000,000 ft. mattress lumber.

Miscellaneous Machinery, Tools, etc.—Bureau of Supplies and Accounts, Navy Dept., Washington, D. C.—Bids June 24 pneumatic hammers, motor driven variable speed hack-saw machine, bench and drill grinders, and engine lathes.

Office Fixtures.—Richland Parish Police Jury, J. C. Salmon, Clk., Rayville, La.—Bids July 1 for art metal fixtures and desks for clerks' office in court house.

Paving.—Atlanta, Tex. See Construction News—Roads, Streets, Paving.

Paving.—Frankfort, Ky. See Construction News—Roads, Streets, Paving.

Pipe (Cast Iron).—See Sewer Construction.

Pipe (Terra Cotta).—See Sewer Construction.

Pipe (Terra Cotta).—See Water and Sewer Improvements.

Pipe (Concrete).—See Sewer Construction.

Radio Sets and Generating Units.—Marine Corps, Q. M. Dept., Washington, D. C.—Bids June 27 for 22 radio sets and 23 generating units, delivery Washington, D. C.

Roads.—State of Maryland. Bids for 10 roads. See Construction News—Roads, Streets, Paving.

Road.—Krotz Springs, La. See Construction News—Roads, Streets, Paving.

Road.—Summerville, S. C. See Construction News—Roads, Streets, Paving.

Road.—Waltham, Miss. See Construction News—Roads, Streets, Paving.

Road.—Groveton, Tex. See Construction News—Roads, Streets, Paving.

Road.—Perry, Ky. See Construction News—Roads, Streets, Paving.

Safe Protection Devices.—Supervising Archt., Treasury Dept., Washington, D. C.—Bids July 23 for vault and safe protective devices at federal buildings.

Saw.—Marine Corps, Q. M. Dept., Washington, D. C.—Bids June 23 for motor driven hand saw, delivery Quantico, Va.

Sea Wall.—City Comsn., J. W. O'Neal, Mayor, opens bids July 1 for furnishing all necessary materials, except steel sheet piling, equipment and labor necessary to construct certain storm protection improvements. See Construction News Columns—Miscellaneous Construction.

Sewer Construction.—City of Montgomery, Ala., J. L. Cobbs, City Treas.—Bids July 1 for furnishing materials and labor for constructing southern outfall sanitary sewer No. 2; work includes: 60 ft. 24-in. Class B c. i. pipe; 17,588 ft. of 24-in., 3888 ft., 21-in., 250 ft., 18-in., 215 ft. of 15-in., 2222 ft. of 12-in. terra cotta pipe or conc.; 50,000 f. b. m. lumber; 7000 f. b. m. creosoted bridge timber; clearing and grubbing, etc.; J. M. Garrett, City Engr.

Sewer Construction.—City of Huntington, W. Va., Fred E. Reed, Jr., Comms. Streets, A. B. Maupin, City Engr.—Bids June 23 for sanitary sewer in Woodmont Rd. from McVeigh Ave. to Underwood Ave., plans etc. on application to city engineer.

Sewer Construction.—See Water and Sewer Improvements.

Screens.—Office of Constructing Quartermaster, Fort Bragg, N. C.—Bids July 1 for installing insect screens in 14 officers' quarters.

School Equipment.—Desoto Parish School Bd., F. O. Brinkley, Pres., Mansfield, La.—Bids July 2 for equipment for Logansport school: Desks, chairs, shades, teachers' desks, laboratory equipment.

Sidewalks.—Winston-Salem, N. C. See Construction News—Roads, Streets, Paving.

Streets.—Columbia, S. C. See Construction News—Roads, Streets, Paving.

Street.—Houston, Miss. See Construction News—Roads, Streets, Paving.

Streets.—Yazoo City, Miss. See Construction News—Roads, Streets, Paving.

Tractors.—U. S. Engr. Office, Memphis, Tenn.—Bids June 23 for 10-ton tractor.

Tractors.—Marine Corps, Q. M. Dept., Washington, D. C.—Bids June 27 for 8 3-ton tractors, delivery Philadelphia, Pa.

Truck Chassis.—Marine Corps, Q. M. Dept., Washington, D. C.—Bids June 23 for truck chassis, delivery Philadelphia, Pa.

Trucks.—Marine Corps, Q. M. Dept., Washington, D. C.—Bids June 26 for 10 2-ton trucks, delivery Philadelphia, Pa.

Trucks.—Marine Corps, Q. M. Dept., Washington, D. C.—Bids June 25 for 1/2-ton trucks, delivery Philadelphia, Pa.

Water and Sewer Improvements.—City of High Point, N. C., C. A. York, Mayor—Bids June 24 for water and sewer improvements, including, trenching, laying and backfilling; constructing 28 sewer manholes; furnishing following, f. o. b. cars High Point: 794 ft. of 15-in., 6955 ft. of 12-in., 2326 ft. of 10-in. terra cotta sewer pipe.

Trade Literature

Chemical Products.—A new booklet is being distributed by the Grasselli Chemical Co., Cleveland, Ohio, presenting a list of chemical products which this company manufactures, including chemicals, pigments, dry colors, DuGro zinc, etc.

Safety Rules.—The National Safety Council, Chicago, is distributing safe practices pamphlets on "Safety Rules—Their Formulation and Enforcement" and "Suggestion System." The pamphlets, No. 40 and 80, deal specifically with industrial safety methods.

U. S. Steel Quarterly.—The U. S. Steel Quarterly for April-June, 1930, has been issued by the subsidiary manufacturing companies of the United States Steel Corporation, New York. The periodical contains representative current advertisements scheduled to appear in trade and general publications; interesting articles, and a condensed list of the products made.

Torches.—The Consolidated Iron-Steel Mfg. Co., Cleveland, Ohio, has issued a folder illustrating and describing the new T & B torches, tested in actual use to meet the requirements of outside service. These gray iron torches are described by the manufacturer as dependable in spite of weather, practically unbreakable and they cannot be accidentally tipped over and extinguished.

Warehouse Operation.—A paper on "Warehouse Operation," prepared by Walter M. Batchell, manager of warehouses, Truscon Steel Company, Youngstown, Ohio, and read before the Concrete Reinforcing Steel Institute, Chicago, at its sixth annual meeting at Augusta, Ga., is being distributed in pamphlet form by the Institute. The paper deals comprehensively with all phases of the subject.

Motor-Driven Compressors.—The Westinghouse Traction Brake Company, Pittsburgh, Pa., with works at Wilmerding, Pa., and Milwaukee, Wis., has issued catalogs descriptive of several types of motor-driven air compressors, automatically controlled. Catalog T-2047 is devoted to types 2 VSW, 2 VSAW and 2 VCA, and catalog T-2048 to types NB, NWB and QL. Several vital improvements have been incorporated in types N and ZV, in which the range of sizes and operating conditions have been amplified.

North Carolina.—The Department of Rural Social-Economics, University of North Carolina, Chapel Hill, has been busy for a number of years exploring economic and social conditions in North Carolina and passing its findings to the public through several media, including the University News-Letter, the North Carolina Club Year Book, special monographs, correspondence, lectures, etc. For the purpose of outlining in one convenient volume an economic and social interpretation of the state, Professor Samuel Huntington Hobbs, Jr., of the Department of Rural Social-Economics, has prepared a volume presenting a comprehensive analysis of the physical resources of the state, population composition and characteristics, agriculture, farm-tenancy and other conditions. The book has been published by the University of North Carolina Press and its price is \$3.50.

Pneumatic Tools.—Literature issued by the Chicago Pneumatic Tool Company, New York, includes bulletin 865, dealing with demolition tools and sheeting driver, and catalog 868, illustrating and describing Little Giant electric tools operating on alternating and direct current.

Electric Motors.—The Wagner Electric Corporation, St. Louis, Mo., is distributing a 16-page bulletin, No. 171, devoted to Fynn-Weichsel motors, with a discussion of the problem and cost of poor power factors and the application of Fynn-Weichsel motors to a solution of these problems.

Wooden Boxes.—The National Lumber Manufacturers Association, Washington, D. C., has issued a folder presenting reasons why wooden containers should be preferred for shipments, announcing at the same time that technical service is available to shippers to aid them in designing cases and crates best suited to their needs. The National Association of Wooden Box Manufacturers and the National Lumber Manufacturers Association maintain a joint Wooden Box Bureau at Chicago for research, consumer servicing and promotion purposes.

Iron and Steel Works.—A new directory—the twenty-first edition—of the iron and steel works of the United States and Canada, issued by the American Iron and Steel Institute, New York, is ready for distribution. This is a revision of the twentieth edition published by the Institute in 1926 and a continuation of similar works published from time to time by the American Iron and Steel Association of Philadelphia. It consists of one volume of 464 pages and includes all companies, firms and individuals engaged in the manufacture of pig iron, ferro-alloys and kindred products, steel ingots, steel castings, hot rolled and iron steel products, charcoal blooms, tinplates and terne plates. The price of the volume is \$15.

WILL SPEED EXPANSION PROGRAM

Skelly Oil Company Plans \$12,000,000 Stock Sale and Construction of Refineries

Tulsa, Okla.—An accelerated expansion program to cover the next two years has been announced by the Skelly Oil Company, of this city, following an arrangement through a New York and Chicago syndicate to sell \$12,000,000 of 6 per cent preferred stock. Plans of the company involve the construction of a new refinery near Pampa in the Texas Panhandle, where it owns a large acreage. This unit will probably be inaugurated as a topping and cracking plant of 5000 barrels of oil daily and is expected to open a new marketing territory for the company in Oklahoma and elsewhere. A new lubricating plant will be constructed at the company's refinery at El Dorado, Kans., and the refinery itself extended and improved. Retail marketing facilities will be ex-

INDUSTRIAL NEWS OF INTEREST

Items of news about industrial, railroad or financial interests, building operations, construction work, municipal improvements, or the sale of machinery or the letting of contracts in the South or Southwest, are invited from our readers, whether they are advertisers, or subscribers, or not. We invite information of this character from readers in the North and West about their Southern business operations, as well as from Southern readers. News of value will be published just as readily when from non-advertisers as from advertisers.

New Phillips Gasoline Plant.

The Phillips Petroleum Co., Bartlesville, Okla., announces the immediate construction of its 49th plant for production of gasoline from natural gas, to be located near Hobbs, New Mexico, on the railroad recently opened in connection with the T. & P. system. The plant will be of the absorption type with an initial capacity of 40,000,000 cubic feet of gas daily and will be constructed in units consisting of two distillation units, one a natural well pressure installation, and necessary compressors. Production will be 50,000 gallons daily.

Enlarges Atlanta Office.

The Commercial Investment Trust Corporation, New York, has enlarged its office in Atlanta, Ga., to include a department for the purchase of instalment paper created by dealers in radios, refrigerators and other household appliances, and by manufacturers handling industrial equipment. Under the new arrangement, the Atlanta office will become regional headquarters for North Carolina, South Carolina, Georgia, Alabama, Florida and the eastern part of Tennessee.

Ten Years of Knoxville Progress.

Knoxville, in the past ten years has had a marvelous growth. New buildings have arisen in all sections, while manufacturing and other forms of industry have rapidly advanced. These facts are forcibly presented by text and illustration in a special edition of the Knoxville Sunday Journal, recently issued, in which it is stated that "co-operation has given the acceleration to the forward movement that has been Knoxville's, during past years."

Whiting Corporation Appointments.

The Whiting Corporation, Harvey, Ill., manufacturers of cranes, foundry equipment and railway specialties, announce the appointment of Robert S. Hammond, formerly sales manager of the Chicago district, as sales manager of the Whiting line, with headquarters at Harvey, and the appointment of R. E. Prussing, vice president and formerly manager of the company's Cleveland office, as sales manager of the Chicago district with headquarters in the company's new Chicago office. Ray H. Moore, formerly manager of the foundry equipment department at Harvey, has been appointed district sales manager in charge of the Cleveland office.

Brown Instrument Company Enlarges Plant.

The Brown Instrument Company, Philadelphia, Pa., has awarded contract to the Robert E. Lamb Co., Philadelphia, for 40,000 square feet of additional factory space. Mechanical and electrical equipment will be installed under separate contracts. Plans were prepared by the Ballinger Co., Philadelphia, under supervision of W. E. Camp, industrial engineer of the Brown company, whose products include pyrometers, thermometers, flow meters, indicating, recording and controlling instruments.

Commonwealth and Southern Officers.

R. A. Stephen, formerly assistant treasurer of the Commonwealth & Southern Corporation, New York, has been elected treasurer; B. W. Eggert and F. A. Bain assistant treasurers.

Natural Gas for Industry and Homes

Contracts involving the expenditure of millions of dollars in the South have been awarded for construction of additions to the transmission lines of the Southern Natural Gas Corporation, Birmingham, which announces that the expenditure for additional compressor units alone will approximate \$1,210,000.

More than 100 miles in the Montgomery division will be constructed from Tuscaloosa, Ala., to a point near Columbus, Ga., and laterals will be provided. The Macon division, about 185 miles, will be built from a point near Atlanta to Macon and east, with laterals, and the Mobile division also is included.

Contract for the Montgomery division has been awarded to O'Brien Brothers, Chicago; Macon division, to W. S. Bibb, of Birmingham, Ala., and Mobile division to C. S. Seale, Sicily Island, La., stringing of pipe on this division to be done by Cox & Carpenter, Bastrop, La.

tended, involving the construction or acquisition of between 400 and 500 bulk and service stations, and the pipe line system will be extended to increase the supply of crude oil to the El Dorado refinery and the one to be built in the Texas Panhandle. The pipe line system, now confined to Kansas, will be further extended in that state to connect with new pools under development, while an extension into Oklahoma is being considered, where the company owns important holdings of oil production and undeveloped acreage. An appropriation will be made for further development of gas acreage in the Texas Panhandle and work already has begun on the construction of a 900-mile high capacity gas pipe line from the Texas Panhandle to Chicago and intermediate points, for Skelly and other interests. The building of this line will justify considerable development in the Panhandle gas area. The company's program provides for integration as well as expansion and parts of the program are already under way, the remainder to be undertaken as rapidly as possible.

FINANCIAL NEWS

Bond Issues Proposed

Arkansas — Highway—State of Arkansas, Ralph Koonce, State Treas., Little Rock, receives bids July 9 for \$18,000,000 bonds.

Ark., Mena—Paving—City contemplates \$127,000 bond issue; W. L. Winters, Engr.

Ark., North Little Rock, Little Rock—North Little Rock School Bd., W. E. Phipps, Supt. of Schools, receives bids June 26 for \$100,000 bonds.

Ark., Okalona — Okalona Special School Dist., M. M. Orsburn, Sec., receives bids July 1 for \$35,000, 6% bonds.

Fla., Fort Lauderdale — Broward County Bd. of Public Instruction, Glen Dixon, Chmn., receives bids July 7 for bonds of Special Tax School Dist. No. 1 to 5.

Fla., West Palm Beach—Governor Doyle E. Carlton, Tallahassee, and others, named committee by Everglades Drainage and Okeechobee Flood Control boards to push validation of \$2,000,000 bond issue of Everglades Drainage Dist.

Ga., East Point—City, T. W. Fowler, Clk., voted \$65,000, 5% bonds for city hall.

Ga., Vienna—City votes June 25 on \$15,000, 5% bonds; \$7,000, water; \$8,000, sanitary sewer.

La., Bayville—Road—Richland Parish voted \$200,000 bonds; J. C. Salmon, Clk., Police Jury, receives bids July 15 for \$200,000, \$1,000 denom., not to exceed 6% bonds.

La., Farmerville—Union Parish School Bd., P. L. Read, Sec., receives bids July 1 for \$21,000, 6% Downsview School Dist. No. 40 bonds and \$20,000, 6% Lineville School Dist. No. 6 bonds.

La., Forest—West Carroll Parish School Bd., Oak Grove, receives bids July 8 on \$38,000 Forest School Dist. No. 3 bonds.

La., Jonesville—Catahoula Parish School Bd., H. W. Wright, Sec., receives bids July 1 for \$80,000 6% Consolidated School Dist. No. 9 bonds.

La., Lawtell — Bd. of Commrs. Lawtell Gravity Drainage Dist. No. 11 receives bids June 24 for \$30,000, 6% bonds; information from J. Franklin Schell, Washington, La.

La., New Orleans—Orleans Levee Dist. will sell July 8, \$1,000,000 5% Pontchartrain Lake front improvement bonds; part of \$2,200,000 bonds authorized previously by Bd. of Liquidation of State Debt. of Louisiana.

La., Tallulah—Road, Bridge—Madison Parish Police Jury, P. O. Benjamin, Sec., receives bids July 23 for \$350,000, 5%, \$1000 denom. bonds.

Miss., Clarksdale—Coahoma County Bd. of Supvrs. voted \$60,000 bonds to provide finances for work on Coahoma Drainage Dist. near Lyon; action to be taken later on \$15,000 bonds for Dublin Consolidated School Dist.

Miss., Gulfport—Harrison County Bd. of Supvrs. authorized issuance of \$28,000, 5% Woolmarket Consolidated School Dist. bonds, recently voted.

Miss., Jackson—City plans voting within next 60 days on \$1,500,000 municipal improvement bonds.

Miss., New Albany—Commrs. of Lappa-tubba Drainage Dist., Chas. Lee Crum, Atty., received no bids for \$18,500, 6% drainage bonds; lately noted bids May 19.

Miss., Starkville—Oktibbeha County Bd. of Supvrs. called election for July 1 on \$16,000 Dist. No. 1 bonds.

Mo., Jefferson City—Cole County Court considering bond election in November for \$85,000 jail.

Mo., Holcomb — Holcomb Consolidated School Dist. plans voting soon on about \$10,000 bonds.

Mo., Lebanon—Sewer—City votes July 29 on \$80,000 bonds.

N. C., Burnsville—Hospital—Yancey County Commrs., Pearle L. Huskins, Clk., received no bids for \$30,000, 5%, \$1000 denom. bonds.

N. C., Durham—City, reported, plans selling in July or August \$1,000,000 bonds.

N. C., Greensboro — Street—City Council considering bond issue.

Okla., Geary—City, reported, voted \$95,000 bonds for water, sewer and school improvement.

Okla., Oklahoma City—City, E. M. Fry, Mgr., considering \$810,786 bond election for fire equipment; W. W. Small, City Engr.

Okla., Oklahoma City—Paving—City, E. M. Fry, Mgr., considering bond issue; W. W. Small, City Engr.

Okla., Stilwell—Adair County considering bond issue to rebuild courthouse.

Tenn., Bells—Town votes July 7 on \$70,000 bonds; \$20,000, sewerage system; \$30,000, school; \$20,000, streets.

Tenn., Brownsville—Sewer—City votes July 8 on \$120,000, 5 1/4 %, \$1000 denom. bonds.

Tenn., Lewisburg—School—Marshall County defeated \$50,000 bond issue.

Tenn., Milan—Road—Gibson County Court called election for June 28 on \$500,000 bonds.

Tenn., Nashville—State of Tennessee receives bids June 20 for \$500,000, not to exceed 5% bonds to construct buildings for University of Tennessee.

Tenn., Nashville—City, Hilary E. Howse, Mayor, votes June 26 on \$150,000 bonds to establish President's Plaza and erect memorial thereon.

Tex., Benjamin—Knox County Consolidated School Dist. No. 27 votes soon on \$35,000 bonds.

Tex., Boerne—Road—Kendall County, J. A. Phillip, Judge, defeated \$100,000 bond issue.

Tex., Carthage — Road—Panola County Commrs. Court, James G. Strong, County Judge, called election for July 5 on bonds.

Tex., Edinburg—Tabasco School Dist., Hidalgo County, votes June 28 on bonds. Lately noted under Tex., McAllen.

Tex., El Paso—Smelter School, Dist. outside of El Paso, votes soon on \$50,000 bonds.

Tex., Irving — Irving Independent School Dist. voted \$40,000 bonds.

Tex., Lufkin—Redland School Dist., north of Lufkin, voted \$10,000 bonds for gymnasium and auditorium.

Tex., Mauriceville—Mauriceville Independent School Dist. considering bond election for \$35,000 to \$40,000 school; Prof. Hampton Burkhalter, School Supt.

Tex., New Braunfels—Courthouse, Jail—Comal County, Carl Roepper, Judge, called election for July 19 to revote on \$100,000 bonds, account technicalities; lately noted voted \$80,000 bonds.

Tex., New Braunfels — Incinerator — City considering \$20,000 bond election.

Tex., Port Lavaca—City considering \$30,000 bond election for bay front improvements.

Tex., San Benito—Commrs. San Benito Independent School, Dist. of Cameron County, A. L. Harris, Pres., reported, rejected bids for \$320,000, 5% bonds.

Va., Rosslyn — Arlington County voted \$640,000 school bonds and defeated \$2,173,089 sewer, disposal plant bonds; C. L. Kinnier, County Engr.

Bond Issues Sold

Ala., Birmingham—City Coman., sold \$1,447,000 bonds to syndicate composed of Stephens & Co., M. F. Schlatter & Co., Batchelder & Co., all New York; Seasongood & Mayer, Cincinnati, and Steiner Brothers, Birmingham, at par plus \$41 premium for \$1,000,000, 4 1/2 % grade crossing bonds, \$530,000, public improvement, and \$447,000, sewer, both 4% bonds; A. J. Hawkins, City Engr.

Ark., Conway—Paving—City sold \$100,000, 5 1/2 % street improvement Dist. No. 18 bonds to W. B. Worthen Co., Little Rock, at \$100.10.

Ark., DeQueen — Courthouse, Jail — Sevier County Court sold \$110,000, 5% bonds to M. W. Elkins & Co., Little Rock, at par and \$1375 brokerage fee.

Ark., Lewisville—Bankers Trust Co., Little Rock, reported, purchased \$81,600 Water and Sewer Dist. No. 1 improvement bonds.

Ark., Russellville—School Bd., Charles M. Howell, Sec., sold \$100,000, 5% School Dist. bonds to M. W. Elkins & Co., Little Rock, at 98.

Fla., Orlando—City Coman., James L. Giles, Mayor, reported, sold \$185,000, 6 1/4 % delinquent tax notes to Guarantee Title & Trust Co., Wichita, Kansas, for \$179,400.

La., Columbia — Caldwell Parish Police Jury, R. R. Redditt, Sec., sold \$45,000, 5 1/4 % Road Dist. No. 1 bonds to Whitney Central Savings Bank, New Orleans.

Md., Baltimore—City, Augustus M. Denhard, Register, sold \$8,285,000, 4% coupon bonds at 98.725, to syndicate headed by Mercantile Trust Co., Baltimore, and including Guaranty Co. of New York, Harris, Forbes & Co., New York, Alexander Brown & Sons, and Baker, Watts & Co., both Baltimore;

\$2,002,000, third sewer; \$2,800,000, second paving and bridge; \$317,000, third conduit;

\$430,000, public library; \$684,000, building; \$2,052,000, Howard St. extension and east-west viaduct.

Miss., Decatur — Newton County Bd. of Supvrs., M. J. Scarborough, Sec., sold \$75,000 Junior College Improvement Bonds to Rogers Caldwell & Co., New York City.

N. C., New Bern—Refunding—City, F. T. Patterson, Clk., sold \$80,000, 5 1/4 % bonds to Provident Savings Bank & Trust Co., Cincinnati, at \$784 premium.

Okla., Chickasha—School—City sold \$92,000 bonds to Oklahoma National Bank.

Okla., Holdenville — School — Holdenville School Dist., S. E. West, Pres., sold \$35,000, 5%, \$500 denom. bonds to First National Bank.

S. C., Charleston — City, W. S. Smith, Treas., reported, sold \$265,000 4% notes to T. A. Uzell, Greensboro, N. C., representing E. J. Coulon & Co., New York; \$65,000 at \$37.28 premium; \$200,000 at \$114.72 premium.

Tenn., Johnson City—City Commrs. sold \$75,000, 5 1/4 % refunding bonds to Unaka and City National Bank at par plus \$175 bonus.

Tex., Beaumont—Jefferson County Comsn., B. B. Johnson, County Judge, sold \$198,000 5% intra-coastal canal bonds; \$36,000 navigation aid bonds for canal right of way and spillways to Harris, McLean & Co., Beaumont, par, accrued interest and \$100 premium; \$162,000, intra-coastal bridge to B. F. Dittmar Co., San Antonio, at par, accrued interest and \$197 premium.

Tex., Brownsville—Water—Cameron County Improvement Dist. No. 15, S. Finley Ewing, Pres., sold \$130,000 bonds to H. C. Burt & Co., Houston and New York, through Security Trust Co. of Austin.

Tex., Hansford—George L. Simpson & Co., Dallas, purchased \$60,000 Hansford County road bonds.

Va., Richmond—City, L. B. Edwards, City Comptroller, sold \$2,035,000, 4 1/4 %, \$1000 denom. bonds to State Planters Bank & Trust Co., Richmond; Dewey, Bacon & Co., George B. Gibbons & Co., Inc., and First National Old Colony Corp., all New York, at \$2,113,754; \$500,000, street; \$400,000, sewer; \$635,000, school; \$250,000, general improvement; \$15,000, gas works; \$100,000, water.

Va., South Norfolk, Norfolk—Well, Roth & Irving Co., Cincinnati, reported, purchased \$200,000 5 1/4 %, \$1000 denom. funding and refunding bonds.

W. Va., Charleston—City sold \$350,000, 5% school dist bonds, jointly, to Lehman Brothers, New York City, and Caldwell & Co., Nashville, Tenn., at 105.372.

Building and Loan Associations

Va., Matthews—Matthews Small Loan Co., Inc., capital \$25,000; chartered; Fred L. Joslyn, Pres.

New Financial Corporations

Fla., St. Petersburg—Du Pont-Ball interests, Edward Ball, Pres.-Treas., of Du Pont-Ball, Inc., and Dir. of Florida National Bank of Jacksonville, applied for charter for Florida Bank at St. Petersburg; capital \$100,000, surplus \$40,000.

Ga., Savannah—Liberty National Bank & Trust Co. of Savannah, capital \$600,000, chartered; J. P. Houlihan, Pres.; C. A. McCarthy, Cashier; conversion of Liberty Bank.

La., New Orleans—Reilly Investment Co., Inc., capital \$18,000, chartered; Mary E. R. Grasser, 1462 Joseph St., Pres.; Frances D. Reilly, Sec.-Treas.

Mo., Kansas City—Fidelity National Corporation, capital \$2,000,000, chartered; Henry C. Flower, 420 E. Armour St.

Mo., St. Louis—Mercantile-Commerce National Bank, organized by Mercantile-Commerce Bank & Trust Co., John G. Lonsdale, Pres., as subsidiary bank, will open in Pythian Bldg., Grand and Delmar Blvd., with John G. Lonsdale, Pres.

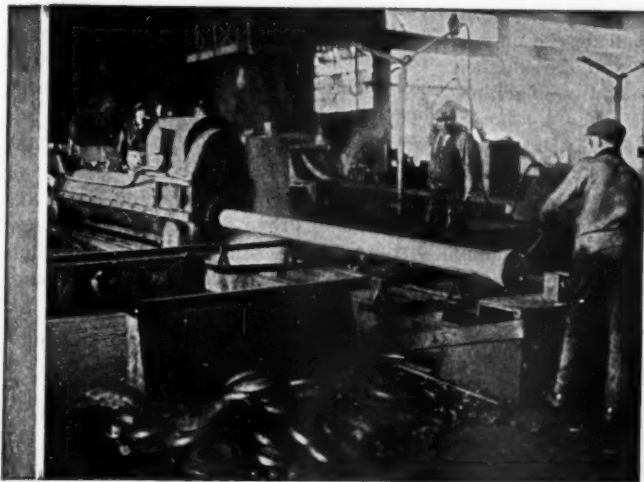
Mo., St. Louis—Hoffman Bond & Mortgage Co., capital \$230,000, chartered; E. D. N. H. and L. F. Hoffman, all Cape Girardeau.

N. C., Greensboro—North Carolina Industrial Bank, 118 Market St., authorized capital \$1,000,000, opened with W. Y. Preyer, Chmn. of Bd.; acquired State Industrial Bank.

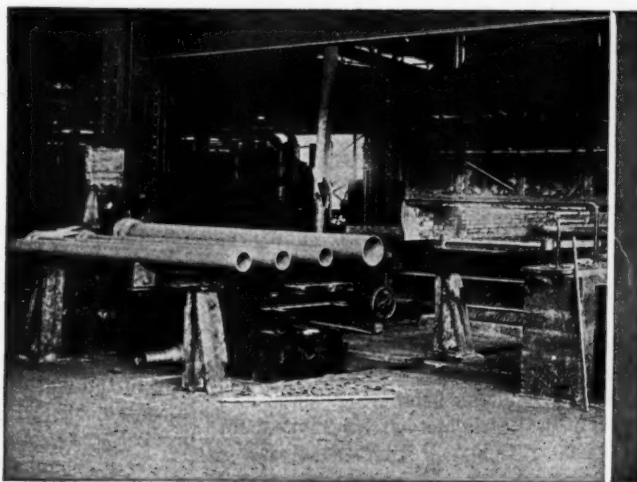
Tenn., Nashville—Mid-South Banks, Inc., of Nashville, chartered; James E. and Meredith Caldwell, T. D. Webb.

Tex., San Antonio — Soledad Investment Co., capital \$40,000, chartered; L. L. Hart, Gunter Bldg.

centrifugal casting) and (controlled annealing..



As soon as the pipe is formed in the mold, the bell is secured by a locking device and the deLavaud machine moves slowly backward.



Immediately after coming from the machines, deLavaud pipe is placed in a furnace where accurately controlled heat uniformly anneals every length.

combine to give strength and flexibility to deLavaud pipe

THERE are two fundamental reasons for the strength and flexibility of deLavaud pipe metal. The first reason is the centrifugal method of casting in the water-jacketed deLavaud machine.

In this machine, the iron is cast under a pressure which drives out impurities with a force many times greater than gravity. This pressure brings about an unusually dense metal structure.

The cooling action of the water jacket also contributes to the strength of deLavaud pipe metal by breaking down and evenly distributing the non-ferrous particles.

The second reason for the strength and flexibility of deLavaud pipe is the controlled annealing process. Every length of deLavaud pipe is placed in an especially

designed furnace, as shown at the upper right. Here, accurately controlled temperatures anneal every length from end to end, eliminating casting strains.

deLavaud pipe is made by modern methods to meet modern demands. Being light in weight, it is easy to handle. Easy to cut and tap. And, it offers at least 5% greater carrying capacity for the same outside diameter.

deLavaud pipe is manufactured in strict accordance with the specifications of the American Water Works Association and the American Gas Association as well as in the thicknesses and weights of the United States Government Specifications. The new deLavaud Handbook gives complete information. Write for your free copy today.

United States Pipe and Foundry Co., Burlington, N.J.

Sales Offices:
New York

Philadelphia
Pittsburgh

Cleveland
Buffalo
Chicago

Our pipe bears the "Q-Check"
trademark of The Cast Iron
Pipe Research Association

Dallas
Birmingham
Kansas City

Minneapolis
Seattle

San Francisco
Los Angeles

100th Anniversary for Fairbanks Scales

The 100th anniversary of the invention of the modern weighing machine, which also marked the beginning of the scale making business of Fairbanks, Morse & Company is to be celebrated at St. Johnsbury, Vt., July 4-6. R. E. Post, manager of the Baltimore branch of the company states that business and industrial leaders of the nation as well as many from foreign countries will join the company at that time in paying tribute to the memory of Thaddeus Fairbanks, the inventor of the platform scale and "Father of Modern Weighing."

Mr. Post points out that the company is the outgrowth of this small scale manufacturing business started in 1830 at St. Johnsbury in a small foundry by Thaddeus and his brothers Erastus and Joseph P. Fairbanks on an investment of \$4000. Today, Fairbanks, Morse & Company, which also manufactures all types of power and railroad equipment, is one of the largest concerns in the country doing a world-wide business in excess of \$33,000,000.

Up to 1830 the only method of weighing was the use of the balance developed in early Biblical times which later became the unwieldy steelyard, a Roman device of 400 B. C. With traditional

Yankee ingenuity, Thaddeus Fairbanks, who already had patented a cast-iron plow, a refrigerator and a cook stove, set to work to improve on this crude method of weighing. He built a platform level to the ground and connected it to the steelyard with a system of underground levers. A small weight on the beam balanced a load of one or two tons. After months of toil, he finished the first practical weighing machine. Then came the long journey by horseback to Washington to file his patent.

Introduction of various styles and sizes of weighing machines completely changed methods of trade transactions. The old-fashioned measure and count gave way to that of weight whether for hay, grain, coal or livestock.

The St. Johnsbury plant today is described as the largest scale manufactory in the world, and other large auxiliary factories are operating at Sherbrooke, P. Q., and at East Moline, Ill. Other Fairbanks-Morse plants making Diesel engines, electric motors, railroad equipment, etc., are located at Beloit, Wis., Indianapolis, Ind., and at Three Rivers, Mich.

The Flagler Co., contractors of Atlanta, have completed a large warehouse in that city for the Great Atlantic & Pacific Tea Company.

Florida Drainage Bonds Valid

The validity of Florida Drainage District bonds, amounting to more than \$50,000,000, has been established by the United States Circuit Court of Appeals, in a case brought by the Duval Cattle Company against Edward S. Hemphill as receiver of the Baldwin Drainage District of the State. In effect, the decision holds that the general drainage law is constitutional and that the bonds issued under its provisions are negotiable instruments.

This decision is expected in some quarters to prove a precedent in a legal dispute of the same nature over bonds of the Southwest Tampa Storm Sewer Drainage District.

\$600,000 Auditorium Planned

Knoxville, Tenn.—City council will call an election August 7 on a proposal to issue \$300,000 city bonds to supplement \$150,000 to be appropriated by Knox County and a similar amount to be provided by the University of Tennessee for construction of a large auditorium here. The building would be erected on property of the University between Clinch and Cumberland avenues, near Sixteenth street.

THE OSCAR T. SMITH & SON CO.

Manufacturing

BANK AND COMMERCIAL STATIONERS

407-9-11 E. Saratoga Street
BALTIMORE, MD.

CHARACTER

QUALITY

— SERVICE —

YOUNG & SELDEN COMPANY

MANUFACTURING

Bank and Commercial Stationers

BALTIMORE, MD.

THE growth and development of the South and Southwest demands extensive financing and banking facilities. If you are interested in enlarging your contacts in this section, may we discuss our advertising service with you?

MANUFACTURERS RECORD

In



St. Louis

Hotel Mayfair....

8th and St. Charles

In the center of theatre and shopping districts. Floor lamps, fans, circulating ice water in every room. The quiet, refined atmosphere of an exclusive club—an hotel of distinction. Dining room. Coffee shop. Garage service.

400 ROOMS — \$3⁰⁰ to \$6⁰⁰
BATHS

Hotel Lennox....

9th and Washington

St. Louis' newest and smartest hotel opened September 3rd. In the heart of business district. Dining room. Coffee shop. Garage service.

400 Rooms with tub — \$3⁰⁰ to \$6⁰⁰
bath and shower

Hotel Kings-Way...

West Pine at Kingshighway

Opposite beautiful Forest Park. Near bus, street car and motor highways. 20 minutes from downtown. Club breakfasts, table d'hôte dinners. Rooms for two from \$4. Special rates for permanent guests.

Heiss Hotel System KMOX

WE extend the facilities of our organization to those desiring information or reports on companies with which we are identified.

Electric Bond and Share Company

Two Rector Street

New York

Corporate Financing Arranged

Mergers and Reorganizations Effected

With connections seeking extensive outlets in constructive financing in the South, this announcement of facilities now available to Southern business houses embraces a most cordial invitation to investigate the solutions offered in response to capital needs. Capital furnished for both new and old enterprises.

WILLIAM AKERS

Long Distance Local Phone
Walnut 3186
1314-15 Atlanta Trust Co. Bldg.
ATLANTA, GEORGIA

THE ROBINSON-HUMPHREY COMPANY

MUNICIPAL AND CORPORATION BONDS

Established 1894

ATLANTA, GA.

We Underwrite MUNICIPAL BONDS in States of
GEORGIA and SOUTH CAROLINA

Municipalities
Corporations
Railroads

Financed

MARX & CO.

BIRMINGHAM
ALABAMA

We Buy Bonds

City, County, School and Road from
Municipalities and Contractors
WRITE

THE PROVIDENT SAVINGS BANK & TRUST CO.
CINCINNATI OHIO

WE PURCHASE ISSUES OF SPECIAL ASSESSMENT BONDS
AND ADVANCE FUNDS TO RESPONSIBLE CONTRACTORS
ACCOUNT CONSTRUCTION COSTS SUCH ISSUES

CORRESPONDENCE WITH US INVITED

S. G. GARRITY & COMPANY

208 SO. LA SALLE ST. - CHICAGO, ILLINOIS

DELAWARE CORPORATIONS

ORGANIZED

REPRESENTED

Registered in Other States

"DIGEST" OF DELAWARE CORPORATION LAW with forms
for incorporating, also pamphlet on "Stock Without Par Value
under Delaware Law" on request.

NEW EDITION

(With 1929 Amendments and Annotations
to date)

DELAWARE CORPORATIONS AND RECEIVERSHIPS

by Josiah Marvel

Text of law, fully annotated, with Forms for
organizing Delaware Corporations

Buckram Bound 358 Pages

Price \$5.00 Postpaid

Corporation Service Company

318 Delaware Trust Building

Tel. Wilmington 8305

Wilmington, Delaware

The South's Business

Our experience and success warrant our
wanting to identify this bank further with
the business and progress of the South.

Inquiries about our service will be treated
as coming from friends.

BALTIMORE COMMERCIAL BANK

GWYNN CROWTHER, President

26 South Street, Baltimore, Md.

Capital and Surplus \$1,250,000.00

Member Federal Reserve System

W. O. GAY

H. D. MONTGOMERY

G. C. DEMOREST

MUNICIPAL NOTES

COMMERCIAL PAPER

COLLATERAL LOANS

W. O. GAY & CO.

Est. 1894

27 William Street, New York

53 State Street, Boston

1418 Walnut Street, Philadelphia

SOUTHERN TEXTILE SECURITIES

A. M. LAW & COMPANY

Established 1892

Spartanburg, S. C.

STATE ROAD COMMISSION OF WEST VIRGINIA

ENGINEERING DIVISION

CAPITOL BUILDING

C. F. PORTNEY, CHAIRMAN

C. E. MCCOY, COMMISSIONER

FLOYD E. CUNNINGHAM, COMMISSIONER

CHARLESTON, W. VA.

Nov. 27, 1929.

Manufacturers Record,

Baltimore, Maryland.

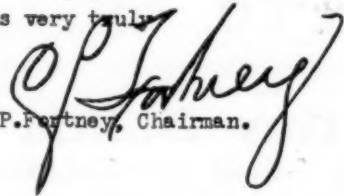
Gentlemen:

We are glad to take advantage of this opportunity to say that all of our impressions of the Manufacturers Record are decidedly favorable.

These impressions have been gained through reading the interesting articles and constructive editorials which feature every issue of your publication, and through the results of advertising in its columns.

We trust that the Manufacturers Record will continue to be one of the big factors in the development of the South, and that it will receive from all sources the support which its efforts and accomplishments have deserved.

Yours very truly,


C. F. Portney, Chairman.

A new angle on BUSINESS FLOORS



A handsome, comfortable Bonded Floor in one of the New York shops of The Hilton Co., Inc.

BONDED FLOORS



Bonded Floors are floors of Sealex Linoleum and Sealex Treadlite Tile, backed by a Guaranty Bond issued by the U. S. Fidelity and Guaranty Company. Authorized Contractors of Bonded Floors are located in principal cities.

Without question, the most inexpensive way to make a store or office look successful—progressive—up-to-date—is to give it a colorful, modern, cork-composition floor. This one feature will improve the whole interior, as nothing else short of entire remodeling would improve it.

Bonded Floors come in realistic marble designs and rich tile effects—a wide choice of pattern, ready made or designed to order. Yet these sales-building floors cost no more (often cost less) than the type of floor that discourages customers.

Durability, cost of maintenance, quietness and comfort underfoot also are factors to be considered. Let us explain how and why Bonded Floors will satisfy you in every one of these respects—write our Department M.

CONGOLEUM-NAIRN INC. • General Office: Kearny, N. J.

Reports Increased Sales

The Northwest Engineering Company of Chicago, manufacturers of gasoline, oil-burning and electric power shovels, cranes and draglines, is the largest exclusive manufacturer in its field. Its customers include the Aluminum Co. of America, International Harvester Co., General Motors Corporation, Stone and Webster and the New York Central Railroad, and many organizations among the country's largest builders and developers. Forty per cent of its sales in recent years have been repeat orders, while sales have increased each year since the company was organized.

A news item in the Wall Street Journal calls attention in a Chicago dispatch to the fact that the sales of the Northwest Engineering Company increased in the first quarter of the current year over the corresponding 1929 period "notwithstanding the decline in building and engineering operations."

Gross trading profit has increased nearly 50 per cent in the last five years and net profits 18 per cent.

It is well to remark that this company is one of the country's largest industrial advertisers. Their well-known advertisements set forth in striking colors in business magazines, have no doubt been a contributing factor in their

success. They have maintained this publicity steadily for years past and it is evident they are reaping the reward while many other manufacturers are complaining of dullness.

\$89,000 for Timber Protection

Atlanta, Ga.—Private owners of more than 1,000,000 acres of Georgia timber lands have agreed to expend \$89,000 for fire protection during the ensuing year, according to the State Forestry Department. Expenditures will be supervised by the Department and divided among 32 timber protective organizations sponsored by it.

Takes Over Contract for \$500,000 Church

Knoxville, Tenn.—Following the recent death of Mr. Gervin of the H. A. Gervin Construction Co., of this city, general contractors to erect the new \$500,000 building here for the Church Street Methodist Episcopal Church, South, Worsham Brothers, Knoxville, have been awarded contract to complete the structure under the terms of the original contract. John Russell Pope, New York, is the architect and Barber & McMurray, Knoxville, associate architects.

Insurance Companies Combine

Raleigh, N. C.—The Business Men's Insurance Company, Greensboro, N. C., has merged with the Durham Life Insurance Company of this city, the consolidated company to operate in the name of the latter with its home office in Raleigh. The total amount of insurance in force will be approximately \$45,000,000, with a premium income of \$2,750,000 and total assets of about \$3,000,000.

Gold in West Virginia

Excitement prevails in Greenland Gap, Grant County, W. Va., over the reported discovery of gold. Ore veins unearthed are said to have produced specimens which have been submitted to Froehling & Robertson, Inc., assayists and chemists, at Richmond, Va., and, according to chief chemist L. M. Himmerler, indicate a high analysis. Land, which could have been bought for a few dollars an acre, within the last few days has been leased and farmers have refused to sell for prices that hitherto would have been considered out of all reason.

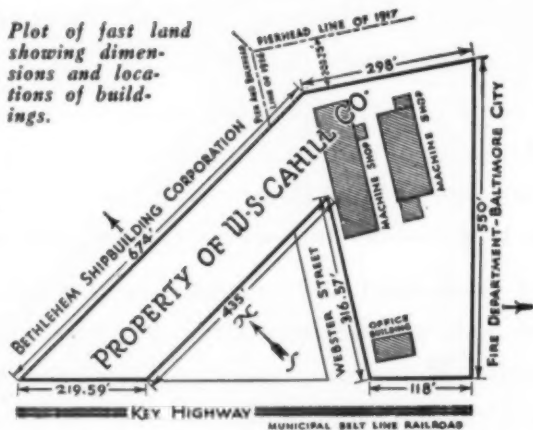
It is reported that mining operations will begin as soon as the necessary machinery can be installed.

FOR SALE Complete Water Front Property As an Entirety



Including all Real Estate, Buildings and Equipment

Plot of fast land showing dimensions and locations of buildings.



Fee simple water front property, situated in the harbor of Baltimore City. Five minutes' ride to center of city. Municipal Belt Line Railroad in front of property on Key Highway. Approximately 4½ acres of fast land and 2 acres riparian rights.

Property of Bethlehem Shipbuilding Corporation adjoining on the North. Property of Fire Department, Mayor and City Council of Baltimore City, adjoining on the Southeast.

For further information, address

W. S. CAHILL COMPANY

Key Highway & Webster St.

BALTIMORE, MD.



Locate Your Plant at East Tampa Terminals

24-Foot Channel to the Gulf Complete in August

The finishing touches are now being put on Tampa's newest Deep-Water Terminal 10 miles nearer the sea

Industries to Which EAST TAMPA TERMINALS

offer special advantages

Oil Storage Terminals
Oil Refinery
Naval Stores Yard
Crate and Box Factories
Creosoting and Chemical Wood Plants
Lumber and Ties
Furniture and Wood-working Plants
Canneries
Tropical Hard Woods Specialty Plant
Auto Assembly Plant
Automobile Tire Factory
Agricultural Implements
Cooperage
Car Ferries to Cuba and Gulf Ports

The docks, warehouses and modern unloading facilities of the U. S. Phosphoric Products Corporation will be available to shippers of all car-load products.

Florida's Legislative Assistance to Industry

The following amendment to Article IX of the Constitution of the State of Florida will be submitted to the electors of the State of Florida at the general election to be held on the first Tuesday after the first Monday in November, 1930, for ratification or rejection, with every reasonable assurance of its adoption—

"Section 12. For a period of fifteen years from the beginning of operation, all industrial plants which shall be established in this State on or after July 1st, 1929, engaged primarily during said period in the manufacture of steel vessels, automobile tires, fabrics and textiles, wool pulp, paper, paper bags, fiber board, automobiles, automobile parts, aircraft, aircraft parts, glass and crockery manufacturers and the refining of sugar and oils, and including by-products or derivatives incident to the manufacture of any of the above products, shall be exempt from all taxation, except that no exemption which shall become effective by virtue of this amendment shall extend beyond the year 1948."

A New Deep Water Port Because—

The rapid industrial and manufacturing expansion of the South-eastern States has brought the especial advantages and opportunities of Florida, and its seaports, prominently to the attention of national industry.

* * *

The favored location of Tampa, as to Gulf ports, Cuba and Central America, and Pacific ports reached through the Panama Canal, joined with Tampa's own domestic trade territory, decided our plant location here.

* * *

We invite other approved industries to share with us the advantages of East Tampa Terminals, either making use of our docks and terminal facilities, or of their own facilities, constructed on their own selected location, as their needs may require.

By August ships will be steaming up the Alafia River to modern docks and warehouses of the U. S. Phosphoric Products Corporation, through a 24-foot channel now being dredged.

Here, rail meets water, providing efficient and economical transportation between Florida and the ports of all nations.

More than 2 miles of safe, land locked water front will be made available to other industries whose requirements are met by this location.

Outstanding factors to be considered by the manufacturer are:

Abundant Electric Power at Low Cost.

Low Initial Cost of Land.

Plenty of Room for Expansion.

Climatic Conditions that Speed Production.

Opportunity for Ideal Housing of Employees.

Locations for approved industries will be offered to suit individual needs, with or without frontage on deep water and in any size, from small lots to 1,000 acres.

It is not desired to sell sites for speculation but full information will be furnished manufacturers, distributors and shippers.

Lowest prices will be given on the first locations sold.

U. S. PHOSPHORIC PRODUCTS CORPORATION

61 Broadway, New York

Tampa, Florida

JAMES F. TAYLOR, Sales Agent

Stovall Professional Bldg., Tampa, Fla.



PROPOSALS

BOND ISSUES

BUILDINGS

PAVING

GOOD ROADS



Bids close July 9, 1930.

State of Arkansas Highway Bonds \$18,000,000 Short Term Notes \$9,000,000

Little Rock, Ark.

Sealed bids for the below described obligations of the State of Arkansas will be received by the State Note Board of the State of Arkansas until ten o'clock A. M., Standard Time, on the 9th day of July, 1930, at which time bids will be opened in public in the Reception Room of the Governor's office in the State Capitol, in the City of Little Rock, Arkansas, to wit:

\$18,000,000 State Highway Bonds, dated July 1st, 1930, bearing interest at a rate not exceeding five (5) per centum per annum, payable semi-annually January 1st and July 1st, and maturing on the first day of July annually as follows:

\$ 24,000.00	1935:	\$ 584,000.00	1953:
24,000.00	1936:	600,000.00	1954:
24,000.00	1937:	606,000.00	1955:
24,000.00	1938:	628,000.00	1956:
24,000.00	1939:	148,000.00	1957:
424,000.00	1940:	1,150,000.00	1959:
296,000.00	1941:	1,200,000.00	1960:
276,000.00	1942:	1,274,000.00	1961:
104,000.00	1943:	1,366,000.00	1962:
486,000.00	1949:	2,550,000.00	1963:
500,000.00	1950:	2,680,000.00	1964:
554,000.00	1951:	1,880,000.00	1965:
574,000.00	1952:		

\$9,000,000 Short Term Notes, dated July 5th, 1930, payable December 5th, 1930, bearing interest at the maximum rate of five (5) per centum per annum, payable at maturity.

The aforesaid bonds and notes will constitute general obligations of the State of Arkansas, for the payment of principal and interest of which the full faith and credit of the State shall be irrevocably pledged. The bonds will be issued in denominations of \$1000 and will be issued in coupon form, but may be registered as to principal at the option of the holder. The notes will be issued in denominations of \$1000 or multiples thereof, at the option of the purchaser.

No more than \$18,000,000 of obligations will be sold by the State Note Board, and bidders are requested to present alternative proposals for (a) \$18,000,000 State Highway Bonds, (b) \$9,000,000 State Highway Bonds, consisting of one-half of each year's maturity above set forth and \$9,000,000 Short Term Notes, and (c) \$9,000,000 Short Term Notes. Each bid must specify the rate of interest to be borne by the obligations bid for, in multiples of one-quarter of one per cent, not exceeding five per centum per annum. The State Note Board reserves the right to reject any and all bids, and to waive all formalities and to award said state obligations to the bidder or bidders whose bid or bids are most advantageous to the State of Arkansas.

Each bid must be accompanied by a certified or cashier's check drawn upon an incorporated bank or trust company for \$100,000, drawn to the order of the Treasurer of the State of Arkansas, to secure the faithful performance of the terms of said bid. Such check will be returned immediately if the bid is not accepted or will be applied on the purchase price if the bid is accepted.

The principal and interest of the aforesaid bonds and notes will be payable in lawful money of the United States at the Chase National Bank, in the City of New York, N. Y.

The approving opinions of Thomson, Wood & Hoffman, of New York City, and Rose, Hemingway, Cantrell & Loughborough, of Little Rock, Arkansas, will be furnished by the State to the purchasers.

RALPH KOONCE,
Treasurer of the State of Arkansas.

Bids close July 8, 1930.

TREASURY DEPARTMENT, office of the Supervising Architect, Washington, D. C., June 9, 1930.—SEALED PROPOSALS will be opened in this office at 3 P. M. July 8, 1930, for furnishing all labor and material and performing all work necessary for the installation complete of a new steam heating system and removal of old gas-steam radiation in the U. S. Post Office at St. Petersburg, Fla. Drawings and specifications may be obtained from the custodian at the U. S. Post Office at St. Petersburg, Fla., or at this office, in the discretion of the Supervising Architect. JAS. A. WETMORE, Acting Supervising Architect.

Bids close June 24, 1930.

War Department, Office Constructing Quartermaster, Fort Bragg, N. C. Sealed proposals in triplicate will be received until 10 A. M., June 24, 1930, and then publicly opened, for the complete installation of Branch Terra Cotta Sewer Lines with House Connections, and Branch Cast Iron Water Lines with House Connections, at Fort Bragg, North Carolina. \$25.00 deposit certified check, payable to Treasurer of United States, required for plans and specifications. Further information on request.

Bids close July 8, 1930.

\$50,000 6% Bonds

Scooba, Miss.

Forty \$1000.00 and eight \$1250.00 bonds bearing six per cent interest, payable annually or semi-annually; \$6250.00 maturing April 1 annually, beginning 1931. Bids open at President's office 10 A. M. July 8, 1930.

EAST MISSISSIPPI JUNIOR COLLEGE,
Scooba, Mississippi.

Bids close July 8, 1930.

Bridge

DEPARTMENT OF PUBLIC WORKS
STATE OF MARYLAND
STATE ROADS COMMISSION

NOTICE TO CONTRACTORS

Baltimore, Md.

SEALED PROPOSALS for building bridge as follows:

Dorchester County, Contract No. D-53-17—Reinforced concrete pile girder bridge exclusive of draw span approximately 1013 feet in length, over the Nanticoke River at Vienna to a point opposite in Wicomico County.

will be received by the State Roads Commission at its offices, Federal Reserve Bank Building, Calvert and Lexington Sts., Baltimore, Maryland, until 12 M., E. S. T., on the 8th day of July, 1930, at which time and place they will be publicly opened and read.

Bids must be made upon the blank proposal form which, with specifications and plans will be furnished by the Commission upon application and cash payment of \$1.00, as hereafter no charges will be permitted.

No bids will be received unless accompanied by a certified check for the sum of Five Hundred (\$500) Dollars, payable to the State Roads Commission.

The successful bidder will be required to give bond, and comply with the Acts of the General Assembly of Maryland, respecting contracts.

The Commission reserves the right to reject any and all bids.

BY ORDER of the State Roads Commission this 12th day of June, 1930.

G. CLINTON UHL, Chairman.
L. H. STEUART, Secretary.

Bids close July 1, 1930.

Bridge Structures

Bastrop, La.

Sealed proposals will be received by the Police Jury of Morehouse Parish at Bastrop, La., up to 10.30 A. M. Tuesday, July 1st, 1930, and at that time and place be publicly opened and read, for the construction of the following bridges over Bayou Bartholomew.

Cory's Bluff bridge, 4 miles west of Bonita Knox Ferry bridge, 4 miles northwest of Gallion; Bonner's Ferry bridge, 4 miles northwest of Bastrop, La., and Parker's Ferry bridge, 3 miles northwest of Bastrop, each structure over all being in length 627 ft., 576 ft., 559 ft. and 627 ft., respectively, consisting of creosoted timber approaches and a 100-ft. steel span through truss, providing a 16-ft. roadway, with creosoted timber floor joists. The contract for the construction of each project will be awarded separately.

Creosoted and untreated bridge lumber and piling will be furnished by the parish f. o. b. sidings at Bonita, Gallion and Bastrop, and steel structure will be furnished in place complete by the contractor.

Information as to locations, character of work, extent of time, class of material, terms of payment, regulations governing manner of submitting proposals and executing contracts may, on application, be obtained at the office of the Parish Engineer at Bastrop, La.

J. LESTER WHITE,
Parish Engineer.

J. W. BRODNAX,
President, Police Jury.

Bids close June 25, 1930.

U. S. Engineer Office, P. O. Box 667, Vicksburg, Mississippi. Sealed bids will be received at this office until 11 o'clock A. M. June 25, 1930, and then opened, for constructing about 608,000 cubic yards of levee work on the Mississippi River in Mississippi.

Bids close July 2, 1930.

Bridge and Retaining Walls

DEPARTMENT OF PUBLIC WORKS
STATE OF MARYLAND
STATE ROADS COMMISSION

NOTICE TO CONTRACTORS

Baltimore, Md.

SEALED PROPOSALS for building a bridge and retaining walls as follows: Montgomery County, Contract No. M-77-33—Triple span (approximately 100 ft. between abutments) steel and concrete bridge over the tracks of the Baltimore and Ohio Railroad Company at Kensington along the line of Lincoln Avenue produced, including all retaining walls.

will be received by the State Roads Commission at its offices, Federal Reserve Bank Building, Calvert and Lexington Sts., Baltimore, Maryland, until 12 M., E. S. T., on the 2d day of July, 1930, at which time and place they will be publicly opened and read.

Bids must be made upon the blank proposal form which, with specifications and plans will be furnished by the Commission upon application and cash payment of \$1.00, as hereafter no charges will be permitted.

No bids will be received unless accompanied by a certified check for the sum of Five Hundred (\$500) Dollars, payable to the State Roads Commission.

The successful bidder will be required to give bond, and comply with the Acts of the General Assembly of Maryland, respecting contracts.

The Commission reserves the right to reject any and all bids.

BY ORDER of the State Roads Commission this 12th day of June, 1930.

G. CLINTON UHL, Chairman.
L. H. STEUART, Secretary.

Bids close July 1, 1930.

Bridges

DEPARTMENT OF PUBLIC WORKS
STATE OF MARYLAND
STATE ROADS COMMISSION

NOTICE TO CONTRACTORS

Baltimore, Md.

SEALED PROPOSALS for building bridges as follows:

Harford County, Contract No. H-86-42—Substructure for the proposed bridge on the road from Harmony Church to Darlington over Deer Creek.

Harford County, Contract No. H-94-42—Structural steel superstructure for the proposed bridge on the road from Harmony Church to Darlington over Deer Creek.

Queen Anne's County, Contract No. Q-43-28—Timber bridge exclusive of draw span on the road from Love Point to Queens-town over Kent Island Narrows.

will be received by the State Roads Commission at its offices, Federal Reserve Bank Building, Calvert and Lexington Sts., Baltimore, Maryland, until 12 M., E. S. T., on the 1st day of July, 1930, at which time and place they will be publicly opened and read.

Bids must be made upon the blank proposal form which, with specifications and plans will be furnished by the Commission upon application and cash payment of \$1.00, as hereafter no charges will be permitted.

No bids will be received unless accompanied by a certified check for the sum of Five Hundred (\$500) Dollars, payable to the State Roads Commission.

The successful bidder will be required to give bond, and comply with the Acts of the General Assembly of Maryland, respecting contracts.

The Commission reserves the right to reject any and all bids.

BY ORDER of the State Roads Commission this 12th day of June, 1930.

G. CLINTON UHL, Chairman.
L. H. STEUART, Secretary.

Bids close July 14, 1930.

TREASURY DEPARTMENT, office of the Supervising Architect, Washington, D. C., June 14, 1930.—SEALED BIDS will be opened in this office at 3 P. M., July 14, 1930, for the extension and remodeling (except elevators) of the U. S. Post Office and Court House, etc., Savannah, Ga. Drawings and specifications, not exceeding six sets, may be obtained at this office, in the discretion of the Supervising Architect, by any satisfactory general contractor, and provided a deposit of \$15.00 is made for each set to assure its prompt return. Checks offered as deposits must be made payable to the order of the Treasurer of the United States. JAS. A. WETMORE, Acting Supervising Architect.

Bids close June 24, 1930.

Maryland Highway Work

DEPARTMENT OF PUBLIC WORKS
STATE OF MARYLAND
STATE ROADS COMMISSION

NOTICE TO CONTRACTORS

Baltimore, Md.

SEALED PROPOSALS for building ten sections of State Highway as follows:

Anne Arundel County, Contract No. AA-91-74—One section of State Highway from the end of Contract No. AA-79 near Gambrell's to Odenton, a distance of 0.73 mile (concrete).

Charles County, Contract No. Ch-87-84—One section of State Highway from Cross Roads toward Liverpool Point, a distance of 1.5 miles (gravel).

Dorchester County, Contract No. D-43-14—One section of State Highway along the Finchville-Federalburg Road from end of Contract No. D-30 ext. toward Federalburg, a distance of 1.23 miles (concrete).

Garrett County, Contract No. G-58-611—One section of State Highway along Oak and Third Streets in Oakland, a distance of 0.77 mile (concrete shoulders).

Harford County, Contract No. H-78-42—One section of State Highway from the end of concrete near Harmony Church to the beginning of macadam near Darlington, a distance of 1.3 miles (concrete).

Montgomery County, Contract No. M-152-311—One section of State Highway along the Colesville Road from Burnt Mill to Whiteoak, a distance of 1.2 miles (concrete shoulders).

Prince George's County, Contract No. P-120-311, Federal Aid Project R-6 D—One section of State Highway along the Baltimore-Washington Blvd. from Beltsville to Hyattsville, a distance of 6.4 miles (alternate bids for resurfacing with hot and cold bituminous mixtures).

Talbot County, Contract No. T-32-22—One section of State Highway from the State Road near McDaniel toward Tilghman, a distance of 4.5 miles (penetration macadam resurfacing).

Talbot County, Contract No. T-33-24—One section of State Highway from the bridge at Knapp's Narrows South through Tilghman, a distance of 0.84 mile (concrete).

Washington County, Contract No. W-71-64—One section of State Highway from Weverton toward Gapland, a distance of 0.5 mile (concrete).

Will be received by the State Roads Commission at its offices, Federal Reserve Bank Building, Calvert and Lexington Streets, Baltimore, Maryland, until 12 M., E. S. T., on the 24th day of June, 1930, at which time and place they will be publicly opened and read.

Bids must be made upon the blank proposal form which, with specifications and plans, will be furnished by the Commission upon application and cash payment of \$1.00, as hereafter no charges will be permitted.

No bids will be received unless accompanied by a certified check for the sum of Five Hundred (\$500) Dollars, payable to the State Roads Commission.

The successful bidder will be required to give bond and comply with the Acts of the General Assembly of Maryland respecting contracts.

The Commission reserves the right to reject any and all bids.

BY ORDER of the State Roads Commission this 10th day of June, 1930.

G. CLINTON UHL, Chairman.
L. H. STEUART, Secretary.

Bids close June 27, 1930.

Street Paving

Houston, Miss.

Sealed bids for the construction of Street Paving Improvements at Houston, Mississippi, will be received by the Mayor and Board of Aldermen at the office of the Town Clerk up to 1.30 P. M. on June 27, 1930, at which time and place they will be publicly opened and read.

The work comprises grading, drainage, concrete curb and gutters and Cement Concrete Paving.

Approximate quantities of principal items: 45,750 square yards Concrete Paving. 34,100 lineal feet Concrete Curb and Gutter.

Plans and specifications may be examined at the office of the Town Clerk in Houston, Mississippi, or at the office of the Engineers, or a copy may be obtained from the Engineers upon receipt of a deposit of Fifteen Dollars, of which amount seven and one-half dollars will be refunded when the plans and specifications are returned in good condition.

The right is reserved to reject any or all bids and to waive informalities.

Each bid must be accompanied by a certified check drawn on a responsible bank or trust company, and made payable to the Town of Houston, Mississippi, for a sum not less than one per cent of the bid; or a bidder's bond for the same amount by a surety company authorized to do business in the State of Mississippi. The successful bidder will be required to furnish performance bond in the sum of 100 per cent of the contract price and one year maintenance bond. The Contractor will be paid in cash monthly on the basis of 90 per cent of the value of work done and materials furnished. Contract will be awarded to the lowest bidder. The successful bidder will be required to take the Special Street Improvement and Street Intersection Bonds of the municipality for the work done.

If further information is desired, address the Engineers.

ASHTON TOOMER, Mayor.

R. F. BRAND, Town Clerk.

C. N. HARRUB ENGINEERING CO.,

705 Fourth & First Nat'l Bank Bldg.,
Nashville, Tennessee.

Bids close June 24, 1930.

Water and Sewer Improvements

High Point, N. C.

Sealed proposals will be received by the Mayor and City Council for the City of High Point, North Carolina, until 7.30 o'clock P. M. June 24, 1930, for Water and Sewer Improvements enumerated as follows:

Trenching, laying and backfilling 830 feet of 15-inch sanitary sewer line complete.

Trenching, laying and backfilling 7075 feet of 12-inch sanitary sewer line complete.

Trenching, laying and backfilling 2350 feet of 10-inch sanitary sewer line complete.

Constructing 28 sewer manholes.

Furnishing the following materials, F.O.B. cars, High Point, North Carolina:

Furnishing 794 feet of 15-inch terra cotta sewer pipe.

Furnishing 6955 feet of 12-inch terra cotta sewer pipe.

Furnishing 2326 feet of 10-inch terra cotta sewer pipe.

Proposals must be marked "PROPOSALS FOR WATER AND SEWER IMPROVEMENTS." All bids must be made upon blank forms provided in copies of the Proposal, Contract and Specifications, and addressed in a sealed envelope to the Mayor and City Council of the City of High Point, North Carolina.

Each bid must be accompanied by a certified check in the amount of five (5) per cent of the amount of the bid as evidence of good faith. Bid bonds will not be acceptable.

The right is reserved to reject any or all bids, or to award contract or contracts, which in the opinion of the Mayor and City Council appear to be for the best interest of the city.

Copies of the Specifications, form of proposal, etc., may be obtained upon application to the Engineer.

C. A. YORK, Mayor.

E. M. KNOX, City Manager.

P. J. DISHNER,
Supt. Water and Sewer Dept.,
City Hall Building,
High Point, N. C.

Bids close June 24, 1930.

Louisiana Highway Work

CANCELLATION REQUEST FOR BIDS

Baton Rouge, La.

Notice is hereby given that the Louisiana Highway Commission has cancelled request for bids for paving the Project described below, bids for which were to have been received and opened on

TUESDAY, JUNE 24, 1930

PROJECT NO. 1401, CHENEYVILLE-BUNKIE HIGHWAY, Rapides and Avozelles Parishes, Route No. 1, length 8.1 miles. Concrete Pavement.

HARRY B. HENDERLITE,

State Highway Engineer.
O. K. ALLEN, Chairman.
Louisiana Highway Commission.

Bids close June 28, 1930.

Sewage Disposal Plant

Charlottesville, Va.

Sealed proposals for the construction of two (2) Sewage Disposal Plants will be received by the City of Charlottesville until 2 P. M. on Saturday, June 28th, at the office of the City Manager, H. A. Yancey, at the City Hall.

Each proposal must be accompanied by a certified check in the amount of \$5000.00 on a solvent National Bank, made payable to the City of Charlottesville. Bid bonds will not be accepted in lieu of the above specified certified check.

Plans and specifications are on file at the office of the Consulting Engineer, Lee H. Williamson, City Finance Building, Charlottesville, Virginia, and at the City Manager's office. They may be obtained upon payment of \$10.00 and will remain the property of the bidder.

Bond will be required in the full amount of the contract as awarded.

Payment will be made in cash on the basis of the Engineer's monthly estimate from funds now in the hands of the City Treasurer.

The Engineer's estimate of the approximate quantities involved in the work is as follows:

3,000 cu. yds. Earth Excavation, Unit Prices.
1,750 cu. yds. Rock Excavation, Unit Prices.
1,300 cu. yds. Reinforced Concrete Masonry, Unit Prices.

180,000 lbs. Reinforcing Steel, Unit Prices.

96 tons Cast Iron Pipe and Specials, Unit Prices.

Gate Valves and Shear Gates, Lump Sum.

Vitrified Sewer Tile, Lump Sum.

Buildings, Lump Sum.

Miscellaneous Iron and Steel, Lump Sum.

450 cu. yds. Sand and Gravel for Sludge Beds, Unit Prices.

3,500 sq. ft. Soapstone, Unit Prices.

The City of Charlottesville expressly reserves unto itself, through the City Manager, the right to reject any or all bids.

H. A. YANCEY,

City Manager.

Bids close June 25, 1930.

Steel Tanks

Mannington, W. Va.

City of Mannington, West Virginia, is publishing notice to contractors that it is receiving bids until June 25th, 1930, for furnishing materials and labor for construction of two steel water storage tanks, with covers, of the capacity of two hundred thousand gallons each. Specifications may be had upon request addressed to R. E. Mockler, City Clerk, Mannington, West Virginia.

Bids close July 1, 1930.

Bridge Material

Bastrop, La.

Sealed proposals will be received by the Police Jury of Morehouse Parish at Bastrop, La., up to 10.30 A. M. Tuesday, July 1, 1930, for the furnishing of creosoted and untreated bridge lumber and piling, delivered Bonita, Gallion and Bastrop, La., at which time and place sealed proposals will be publicly opened and read.

APPROXIMATE QUANTITIES.

200 MBM creosoted lumber.

140 MBM untreated lumber.

22,000 Lin. Ft. creos. piling.

The contract for the material for each structure will be awarded separately.

Information as to class of material, terms of payment, regulations governing manner of submitting proposals and executing the contract may, on application, be obtained at the office of the Parish Engineer at Bastrop, Louisiana.

J. LESTER WHITE,
Parish Engineer.

J. W. BRODNAX,
President, Police Jury.

Bids Wanted From Sub-Contractors

New Orleans, La.

J. V. & R. T. BURKES, INC., Contractors, American Bank Building, New Orleans, La., have received plans and specifications and are in the market for all sub-contract bids and material quotations in connection with general contract bid they propose to submit on the following jobs:

United States Marine Hospital to be erected at New Orleans, La. Bids go in June 24, 1930, at Washington, D. C.

Hotel Francis to be erected at Monroe, La.; Wyatt C. Hedrick, Inc., Architects, Fort Worth, Texas. Bids go in June 17, 1930, in Monroe.

City High School to be erected at Monroe, La.; J. W. Smith & Associates, Architects, Monroe, La. Bids go in June 30, 1930.

We would like to have all bids in our office about two days before the jobs are to be let.

Bids close July 7, 1930.

Waterway Structures

Belzoni, Miss.

The Commissioners of the Main Separate Road District of Supervisors District No. 4 of Humphreys County, Miss., up until 12 o'clock noon, on

Monday, the 7th day of July, 1930, will receive sealed bids for the construction of waterway structures, as follows:

100-ft. Creosoted Timber Bridge 24 ft. wide.
86-ft. Re-inforced concrete culvert—Double 6'x6'

60-ft. Re-inforced concrete culvert—single 6'x6'

Approximately 48 Pipe Endwalls—12' to 48'

All to be done and furnished in accordance with plans and specifications now on file in the office of the Chancery Court Clerk of Humphreys County, Mississippi. Contract will be awarded to the lowest bidder.

Certified check for \$1,000 on and by any responsible bank, payable to Commissioners of the Main Separate Road District No. 4, Humphreys County, Mississippi.

Additional information may be had upon application to W. J. Price, Engineer, Belzoni, Mississippi.

The Commission reserves the right to reject any and all bids.

THOS. TURNER,
J. L. MILLER,
T. C. PARISH, Commissioners.
A. R. HUTCHENS, Clerk.

CLASSIFIED OPPORTUNITIES

MINERAL AND TIMBER LANDS, WATER POWER, MISCELLANEOUS PROPERTIES

MANGANESE DEPOSITS

HAVE LEAD OF MANGANESE which has been cross cut in 12 places 2 to 4 feet depth for one mile. Just right for practical man to take over and develop or sell.

Address
BOX 137, LYNCHBURG, VA.

COAL LANDS AND MINES

50,000 ACRES COAL LANDS, \$5.00 per acre. East Tennessee. On railroad; good markets North and South, with favorable freight rates. Excellent steam, domestic, by-product coals, 3 to 10 ft. seams. Producing mines on property withheld from sales. Excellent opportunity for safe, long time investment, operating or leasing. Address No. 8090, care Manufacturers Record.

TIMBER AND TIMBER LAND

TIMBER LANDS

23,000 acres Pine lands in South Georgia, intersected by Hard Surfaced Federal Highway and Trunk Line Railroad near large towns; 18,000,000 feet Pine Timber on one-third of area; balance has quantities of fine young, rapid-growing Pine Timber. Excellent possibilities for turpentine and timber, also good tobacco land. Price only \$7.00 per acre. For particulars address P. O. Box 554, Savannah, Georgia.

Rates, Terms and Conditions

RATES: 30 cents a line each insertion. Minimum space accepted, four lines. In estimating the cost allow six or seven words of ordinary length to a line. When the advertisement contains a number of long words proper allowance should be made.

Rates for Special Contract:

100 lines \$80 a line
300 lines \$60 a line
500 lines or more \$50 a line

TERMS: For transient advertising cash with order; check, postoffice or express money order or stamps accepted.

On special contract advertising bills are rendered monthly, covering space used each month, payable within ten days.

CONDITIONS: No patent medicine, oil or mining stock advertisements or questionable or undesirable advertisements will be accepted. The assistance of our readers in excluding undesirable advertisements is requested. No display type used.

MINERAL AND TIMBER LANDS, WATER POWER, MISCELLANEOUS PROPERTIES

FOR SALE—Factory Sites, City Property, Water Frontage, Tracts for Suburban Development. Timber Lands and Colonizing Lands. H. H. Wefel, Jr., Mobile, Alabama.

FARM, FRUIT AND TRUCK LANDS

FLORIDA

FLORIDA BARGAINS!

Now is the time to buy in Florida.

No. 1. Sixteen acres bearing orange and grapefruit grove, with splendid residence, outbuildings and artesian well, 60 acres first class land. Well located, with water and highway frontage; loss of wife reason for sacrifice. Price \$11,000.00; terms if desired.

No. 2. A beautiful estate, with 20 years' growth of beautiful palms and shrubs, with residence and cottage, located just across street from Edison and Ford's residence; contains about four acres; must be sold to settle estate.

No. 3. A beautiful, high-class residence, with 200 feet frontage on water, as well as First Street, the most beautiful tropical street in Florida. This residence to be sold due to death of owner. Price \$38,000.00; the best buy in South Florida.

No. 4. 640 acres of first-class truck land; at \$12.50 per acre.

P. JOHN HART REALTY CORP.,
P. O. Arcade,
Fort Myers, Fla.

FARM, FRUIT AND TRUCK LANDS

LOUISIANA

ST. CHARLES PARISH, LOUISIANA, offers opportunities in cattle ranches, agricultural and industrial sites. St. Charles Bank & Trust Co., Sellers, La.

TEXAS

FOR SALE—640 acres patented land located in the shale formation near the producing quicksilver mines in the south part of Brewster County, Texas. All mineral rights, oil, gas, everything goes with the title and \$3.00 per acre cash picks up this mineral snap. This land can be sold in five and ten acre tracts at \$35.00 per acre. Address P. O. Box 436, Roanoke, Va.

VIRGINIA

RIVER FARM FOR SALE OR EXCHANGE—750 acres, brick mansion, two stock barns, several tenant houses, 125 acres rich bottom land, 325 acres fine upland, 300 acres timber. Good neighborhood. Low price.
GEO. V. VENABLE & CO., Lynchburg, Va.

SOUTHERN HOMES

OVER 500 ACRES, spring, brook, log cabin, many long leaf pines. Estate preserve. Fine fish pond "full of fish." Low acreage price. G. F. ARCHER, Aiken, S. C.

SOUTHERN HOMES

In the best city in the Carolinas. \$10,000 to \$75,000, according to size and location.

F. C. ABBOTT & CO.,
Charlotte, N. C.
32 years in Charlotte Real Estate.

BUSINESS AND INVESTMENT PROPERTIES

11,000 ACRE tract prospective oil and gas land in heart of Winter Garden District, Dimmit County, Texas. Soil adapted to culture, commercially, of dates, oranges and other citrus fruits; at investment prices. If interested, Owner, Box 656, Houston, Tex.

BUSINESS OPPORTUNITIES

SEVERAL FINE BUSINESS OPENINGS in small town for capable men; some capital necessary. Address CHAS. L. DELBRIDGE, Delbridge, Mo. The Crimeless Town.

FOR SALE—To right party profitable hamper and veneer mill. Located in Florida. Plenty of timber available. Address No. 8081, care Manufacturers Record.

LUMBER AND BUILDING MATERIAL business for sale in one of the best towns in Georgia. Population increase of over 100% last ten years. Business splendidly equipped and located; oldest established plant of its kind in the section. Present owners have other interests and will sell. Not very much cash required, but must be able to handle satisfactorily. Address No. 9024, care of Manufacturers Record, Baltimore, Md.

ESPECIAL OPPORTUNITY—Wonderful opening for an experienced operator; 100-barrel capacity FLOUR MILL for sale or lease. Hydro power developed 80 to 100 horsepower. Mill modernly equipped, the only mill here. All surrounding conditions of the very best, product all absorbed locally; good wheat country. Hard surface pikes in all directions, two railroads. Population in excess of 8000; growing rapidly. Address SAM T. MILLARD, First National Bank, Elizabethton, Tenn.

WE WISH to communicate and hear from desirable parties that wish to join other parties with experience and reputation that will be of national value and worth in completing organization of construction Co., properly financed to handle large operations. Parties desiring further details that wish to purchase 10 or more shares of the stock, and in other ways be of value to such organization, will please communicate with No. 9013, care of Manufacturers Record. Do not reply unless interested as above.

BUSINESS OPPORTUNITIES

LONG TERM LOANS, large amounts, made on industrial, mercantile, sawmill properties. THOS. W. GILMER, Attorney, Bay Minette, Alabama.

MANUFACTURERS—Write for our FREE Classification Sheets of inventions for sale, covering 135 main subjects, and in one or more of which you will doubtless be interested. ADAM FISHER MFG. CO., 578 Enright, St. Louis, Mo.

INDUSTRIAL SURVEYS

ENGINEERING REPORTS on resources of cities and towns. Recommendations for industrial development and zoning made by specialists in locating industries.

TECHNICAL SERVICE CO.,
Woolworth Building New York City

DEVELOPING AND ENGINEERING

ORGANIZING—DEVELOPING—ENGINEERING

Engineering firm, widely experienced in investigating, organizing, developing, designing and supervising construction, solicit correspondence regarding development or extension of meritorious projects and existing industries, power plants and utilities. Address No. 8016, care Manufacturers Record.

FINANCIAL

MONEY WANTED

6, 7 and 8% Mortgage Loans on City, Town or Country property. Southern Land & Investment Co., Baton Rouge, Louisiana.

INDUSTRIAL PLANTS

FOR SALE—Manufacturing Plant of going concern. Need money for operating purposes. Will sign ten years' guaranteed lease at attractive rental. For full particulars address No. 8092, care of Manufacturers Record, Baltimore, Md.

COMPLETE WOODWORKING PLANT, suitable for furniture or other wood articles. Dry kiln, side track, with ample trained labor available. Can be bought for less than one-half reproduction value. First Securities Company, Chattanooga, Tenn.

WATER FRONT PROPERTY

FOR SALE—Water-front property located in the City of Suffolk, Virginia. This property is suitable for manufacturing purposes, as it is served by six railroads and deep water to the sea. DIXIE GUANO COMPANY, INC., Suffolk, Va.

FACTORY SITES

PLANT SITE AND VILLAGE IN GEORGIA

Very desirable plant site on main line Central of Georgia Railroad, 25 miles from Macon, Georgia. Good location for hosiery, overalls, spinning, etc.; also wood working, furniture and stoves. Power plant available, with deep well and pumps, 100-foot tower and tank, sprinkler system and service lines installed. Fifty good houses, club house and store. In town of 1500 population. Plenty of labor available.

NASHVILLE INDUSTRIAL CORPORATION
Old Hickory, Tennessee.

FACTORY BUILDINGS

FOR SALE OR LEASE IN NEWPORT NEWS, VA., a solid block of reinforced concrete and brick buildings, floor space about 75,000 sq. ft. Buildings are new, with railroad siding and power plant, right in the heart of the city. Can be used for manufacture of furniture, machinery, etc. Will sell or lease at reasonable price. Apply L. U. NOLAND, Newport News, Va.

PATENT ATTORNEYS

PATENTS—Booklet free. Highest references. Best results. Promptness assured. WATSON E. COLEMAN, Patent Lawyer, 724 Ninth St., N. W., Washington, D. C.

FREE "PATENT PARTICULARS" Sterling Buck, over 23 years Registered Patent Attorney. Prompt and thorough services. Suite M 629 F, Washington, D. C.

PATENT ATTORNEYS

SEYMOUR & BRIGHT, Registered Patent Attorneys. Established 1876. PATENTS, TRADEMARKS, COPYRIGHTS. Prompt and thorough service. Suite 600-4, Barrister Building, Washington, D. C.

PATENTS—TRADEMARKS—COPYRIGHTS Charlotte office convenient to South. PAUL B. EATON, Registered Patent Attorney, 218 Johnson Building, Charlotte, N. C., and 314 McLachlen Building, Washington, D. C.

EDWARD C. SASNETT, Atty. at Law, formerly a Principal Examiner in the U. S. Patent Office. I offer to inventors and manufacturers a strictly personal service based on twenty years' experience in patent work. McGill Building, Washington, D. C.

REPRESENTATIVES WANTED

WANTED—Salesmen on liberal commission basis to market a new machine that will revolutionize drilling and countersinking of metals. Prefer men who are selling products to metal fabricators as well as large industrial firms. Address GUIBERT STEEL CO., P. O. Box 1037, Pittsburgh, Pa.

WANTED—Representative acquainted with Architects and Contractors—especially Plastering Contractors—part time, on commission basis, to keep us informed of jobs coming up in your city requiring plaster ornament. Have attractive proposition. Write for particulars. LOUISVILLE COMPOSITION PRODUCTS CO., Louisville, Ky.

AGENCIES WANTED

WANTED TO REPRESENT on commission basis manufacturers of Cement, Iron, Steel, Wallboard, Lime, other building materials, or as distributor, with warehouse facilities. P. O. Box 1046, Beaumont, Texas.

MANUFACTURERS of merchandise of merit desiring southwestern representative, please communicate with and outline proposition fully to J. A. CAMPBELL, 2912 Hall St., Dallas, Tex.

MANUFACTURERS' REPRESENTATIVE. Resident of Southern New England. Many years manager of large plant manufacturing non-ferrous alloys. Is available for full time connection. Highest references. Address No. 9021, care Manufacturers Record.

SITUATIONS WANTED

UNIV. GRADUATE, single, 25, experience personnel, safety, office management; resourceful; organizer and coordinator. Address No. 9022, care Manufacturers Record.

MEN WANTED

IF YOU ARE OPEN to overtures for new connection and qualified for a salary between \$2500 and \$25,000, your response to this announcement is invited. The undersigned provides a thoroughly organized service, of recognized standards and reputation, through which preliminaries are negotiated confidentially for positions of the caliber indicated. The procedure is individualized to each client's personal requirements, your identity covered and present position protected. Established twenty years. Send only name and address for details.

R. W. BIXBY, INC.,
103 Downtown Bldg. Buffalo, New York

MACHINE AND FOUNDRY WORK

ONE OF BEST equipped machine shops in South, including modern foundry, now in position to accept outside work. Large factory located junction three railroads. Competent, experienced personnel. Reasonable rates. Prompt reply to inquiries. Address Box 748, Lynchburg, Virginia.

MACHINERY AND SUPPLIES

FOR SALE—Used bottling works and coca cola plant equipment, complete. If interested write immediately to W. E. SKINNER, Admr., Macon, Miss.

VALDURA PAINT

CLOSING OUT STOCK. Dealer will sacrifice for quick sale all or part 600 gallons Valdura Paint. First-class condition. Opportunity for great saving to dealers or users. Subject to prior sale. Address No. 9023, care of Manufacturers Record.



RESALE DEPARTMENT

MACHINERY

EQUIPMENT

SUPPLIES



RANDLE

OFFERS BIG BARGAINS IN

Used and Rebuilt Engine Generator Sets, Turbine Generator Sets, Motors, Rotary Converters, Generators, Motor Generator Sets, Engines, Boilers, Steam and Electric Machinery of all kinds, also Machine Tools. Send for our new machinery list. Yours for the asking. Established 50 years.

The RANDLE MACHINERY CO.

1734 Powers St., Cincinnati, Ohio

WANTED WELDERS AND COMPRESSORS

Welders Gasoline Driven Portable 250 Ampere.
Welders Electric Driven 300 Ampere. Compressor Gasoline Driven 125 cu. ft. 110 lbs.

ACME STEEL ENGINEERING COMPANY
917 S. Howard St. Baltimore, Md.

NEW FAIRBANKS-MORSE OIL ENGINE

15 H. P. Standard Type "Y"
With complete standard equipment (except pulley)
1—Centrifugal circulating pump outfit.
1—42"x94" Cooling tank.
All brand new—never been used—immediately available. Write or wire
MOFFATT MACHINERY MANUFACTURING CO.
Charlotte, N. C.

REVOLVATORS

For Sale

New and rebuilt portable elevators (stackers), hand or electric power, any size and capacity.

Address P. O. Box 1844
Atlanta, Ga.

STEAM DRYER BARGAINS

10—Bartlett & Snow Steam Jacketed Agitated Reducing Kettles or Steam Dryers, 10' dia. x 3' deep. In excellent condition.

Address A-471
Care of Manufacturers Record, Baltimore, Md.

S. C. BAND MILL CUTTING OUT

80M daily capacity, complete modern outfit, with boilers, kilns, planing mill, standard fire protection system. Also 20 miles 40 pound rail, 3 locomotives, 2 skidders, one track laying machine, 45 log cars. Can now be seen in operation. All in first class condition.

Address

Box 269 Summerville, S. C.

FOR SALE

750 K.V.A.
Skinner Engine Co.
"UNIVERSAL-UNAFLOW"
Steam Generator Unit
3 ph. 60 cy. 240/480 V. Gen. El. Generator, 140 lbs. Steam, 5 lbs. Back Pressure, Belted Exciter and Switchboards.

Installed New 1927
In perfect condition

For Price and Particulars
Apply to

JOHN D. CRAWBUCK COMPANY
Empire Bldg. Pittsburgh, Pa.

Woodworking Machinery

1—Yates No. 90 6x15 Planer—fast feed
1—Fay and Egan 7" Moulder
1—Fay and Egan 42" Band Resaw
1—Fay and Egan No. 4 Scroll and Resaw
1—American Double Spindle Shaper
1—Madison No. 5—32" Automatic Lathe
1—Lath Mill with 4 Saws

JOHN HART

Spartanburg, S. C.

AIR COMPRESSORS

528 CU. FT. INGERSOLL RAND, CLASS ER-1, 14" x 12". With idler for short belt drive and unloader.

500 CU. FT. INGERSOLL RAND, CLASS XRB, DUPLEX, 13" x 8" x 12". Two Stage, belt driven. With intercooler, idler for short belt drive and unloader. This compressor is two years old, has been used less than one year and is as good as new in every respect.

1050 CU. FT. WORTHINGTON DUPLEX 18" x 11" x 14", Two Stage, Feather Valve. With idler for short belt drive and unloader.

BOILER

100 H. P. HAMBURG, VERTICAL, 66" diameter x 12' high, ASME CODE, 100 lbs. pressure. One year old.

LATHES

21" x 11' LEBLOND HEAVY DUTY, GEARED HEAD, Single pulley drive.

19" x 14' LEBLOND HEAVY DUTY, GEARED HEAD, Motor drive, with motor.

PUNCH AND SHEAR

No. 16 PELS COMBINED PUNCH, SLITTING SHEAR, BAR, ANGLE and TEE CUTTER.

BRAKE

No. 6062 DRIES & KRUMP, CAPACITY 6', No. 16 GAUGE. Used less than one year. Good as new.

DELTA EQUIPMENT COMPANY

148 N. Third St. Philadelphia, Pa.

ATTRACTIVE WOODWORKING ITEMS

15"x8" "Yates" A4 Planer and Matcher.
"Oliver" No. 169 Fast Feed Double Surfacers, round head, motor driven.
"Yates" C3, 4" 4 side Moulder, Hopper Feed.
"American" No. 3—6" Moulder.
"Yates" C4, 8" Moulder.
44" No. 283 "Yates" Band Resaw.
44" "Mershon" Band Rip Saw.
36" "Powers" Band Saw.
28" "Oliver" Band Saw.
No. 9 "Bus" Dbl. Spindle, Ballbearing Shaper.
12" "American" Round Head Jointer.
20" "Oliver" Round Head Jointer.
14" "Crescent" Disk Grinder.
No. 137 "Yates" High Speed Knife Grinder.
No. 25 "Oliver" Patternmaker's Gap Lathe.
42" No. 431 3 drum Sander, "Berlin" Endless Bed, Belt Drive.
48" 3 drum Sander, belt drive, "Berlin" Royal Invincible."

L. F. SEYFERT'S SONS, INC.

437-41 N. 3d Street

Philadelphia, Pa.

Oldest Used Machinery House in Philadelphia

Reach the Buyers

of used machinery and equipment through the

Resale Department

An advertisement in this department will help sell machinery being replaced or no longer needed in your plant.

Rates on Request

MANUFACTURERS RECORD

Baltimore, Md.



RESALE DEPARTMENT

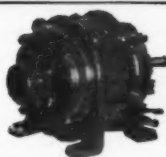
MACHINERY

EQUIPMENT

SUPPLIES



**It pays
to buy
Gregory**



Hi-Grade-Rebuilt Motors

For over 36 years well-informed buyers have profited by that fact.

Gregory Hi-Grade-Rebuilt Motors do everything that a new motor can do: last as long; look as good; and better still—cost much less.

Why buy new motors? Try Gregory Hi-Grade-Rebuilt and Save Money. They are shipped on approval.

Send for our 80-page Illustrated Monthly Bargain Sheet.



**Gregory
Electric
Company**

Lincoln and 16th Street—Chicago

Conveyor, Elevators and Boiler FOR SALE

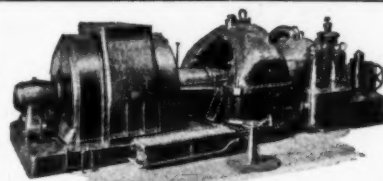
Complete roller conveyor, 500 ft. long.
2—Economy Portable Elevators 2000, lbs.
Capacity.
1—Ward Marine Boiler, 300 lbs. Pressure.
Maryland Pipe & Steel Corp.
Ostend and Scott Sts., Baltimore, Md.
Phone: South 0221

Your ADVERTISEMENT

in these pages places your facilities before the leaders in manufacturing and industrial operations in the South and Southwest, creating wider markets for your products.

Advertising rates gladly
submitted upon request

MANUFACTURERS RECORD
Baltimore, Maryland



10,000 KVA Turbo typical of 4 units recently delivered and similar to the following.

PRACTICALLY NEW 100% INTERNAL EXCELLENCE WESTINGHOUSE CONDENSING TURBO UNITS COMPLETE—INSTANT SHIPMENT

1—15,000 KW CW-218 Frame—1800 RPM
1—10,000 KVA CW-118 Frame—1800 RPM
1—7,500 KW CW-78 Frame—1800 RPM
1—5,500 KVA CW-76 Frame—3600 RPM
1—4,000 KVA CW-76 Frame—3600 RPM
2—1,700 KVA CW-26 Frame—3600 RPM
1—1,500 KVA CW-16 Frame—3600 RPM
(3 phase, 60 cycle, standard voltages)

A.S.M.E. CODE DESIGN BOILERS 200-225 lbs.

2—1500 H.P. Cross Drum B & W
2—2850 HP Ladd Bent Tube
5—627 HP Stirling Plant, modern stokers, auxiliaries
8—504 HP B & W Vertical Steel headers, et al.

CONDENSERS MOTOR GENERATOR SETS

Verification and proof of new equivalent condition easily reached on personal inspection
50% to 200% saving on investment

Send us list of your requirements—or what you have for sale

COME TO CINCINNATI



FOR SALE

1—McEwen H.B.T. Boiler, 200 horse power, 100 lbs. pressure; never used; price \$350.00 f.o.b. cars Bristol, Va.; also two 100 horse power Erie City boilers at \$250.00 each f.o.b. Bristol, Va. can be inspected our yard at foot of Mary St.
For details write

Nashville Industrial Corp.
Old Hickory, Tennessee

BOILERS

2—500 H. P. Heine Water Tube, 160 lbs. Pressure, A. S. M. E. code.
2—180 H. P. Keeler water tube, 200 lbs. Pressure, A. S. M. E. code.
1—150 H. P. 72" x 18' Hor. Ret. Tubular, 150 lb. pressure, A. S. M. E. code.

GENERATOR SETS

2—50 KVA 220 volt, 3 phase, 60 cycle Ridgway Generators, direct connected to Ridgway Engines.

METAL WORKING TOOLS

2000 lbs. Chambersburg double frame steam hammer.
1100 lbs. Niles Bement Pond single frame steam hammer.
1 1/2" Landis bolt cutter, belt drive.
34" Aurora upright drill, motor drive, No. 5 taper.
16" Higely cold saw, single pulley drive.
No. 52 Hendley & Whittemore combination punch and shear, cap. 1/2" x 3/4".
No. 1 Gray sheet metal cutter, cap. 3/16" plate, 34" throat.

THE O'BRIEN MACHINERY CO.

113 North Third Street

Philadelphia, Pa.

USED DIESEL ENGINES

40 HP Fairbanks, Morse with belted 30 KVA 1200 RPM 3 phase, 60 cycle, 2300 volt alternator-exciter-switch-board.
75 HP Fairbanks, Morse direct connected to 60 KVA 3 phase, 60 cycle, 2300 volt alternator-exciter-generator panel-maxim silencer.
60 HP Bessemer for belt drive.
180 HP Fairbanks, Morse for belt drive-Friction clutch pulley—complete equipment—can be arranged to drive generator.
240 HP Fairbanks, Morse, can be arranged for belt drive or direct connected generator drive.
10 HP Fairbanks, Morse semi-Diesel horizontal—complete equipment.

The above engines were traded in for larger equipment
All the above reasonably priced

FAIRBANKS, MORSE & CO.

115 E. Lombard Street,
BALTIMORE, MD.

Reconditioned and Tested A.I.E.E. Standard 5,000 Transformers ready for shipment—at low prices

Every one a safe buy for the most strenuous service. Sizes range from 1 to 1,000 kva.—voltages from 110 to 66,000. Modern equipment that has no superior. Many nationally prominent public utility companies

are our regular customers. We satisfy the users. The savings are between 30 and 60 per cent. Ask your electrical engineer to inspect our shop and testing laboratory. Send for our free Monthly Bulletin.



WE BUY MODERN TYPE TRANSFORMERS—ANY SIZE—ANY QUANTITY

The **ELECTRIC SERVICE CO. Inc.**

America's Used Transformer Clearing House
212 Walnut Street Cincinnati, Ohio



Notice of Trustee's Sale in Bankruptcy

Pursuant to an order of the Hon. H. E. DePass, Referee in Bankruptcy, I will sell at the Court House during the usual hours of Public Sale, at Gaffney, S. C., in the County of Cherokee, to the highest bidder, on July 10th, 1930, at 11 o'clock:

All of the real and personal property of the Globe Manufacturing Company (bankrupt), situated and located near the City Limits of the City of Gaffney, S. C., on the main track of the Southern Railway, about one mile Northeast from Gaffney, S. C., to-wit:

34 acres of land.

1 Brick Mill Building and 7 Frame Warehouses and Garages.

28 Dwelling Houses.

1 Building used for Church Purposes.

1 Store Building.

All of the Machinery and Equipment as follows:

1 Vertical Opener (Saco-Lowell) with bale breaker, 12 foot apron.

2 40" Kitson Breakers, 1 Three Blade Beater, 1 Two Blade Beater.

1 Kitson Condenser, 1920 Model.

2 40" Kitson Finishers, Needle Beater, 1893 and 1903 Models.

39 Saco-Pette and Whiten Cards, 24" and 27" Doffers.

2 Sets Bronsfield Travers Grinders.

2 Bronsfield Drum Grinders.

1 Stripping Roll.

11 Frames, Rebuilt, Saco-Pette Drawing, 56 Deliveries.

3 Saco-Lowell Slubbers, 6x12, 72 Spindles each.

2 Saco-Pette Intermediates, 11x5½, 76 Spindles each.

2 Saco-Pette Intermediates, 10x5, 104 Spindles each.

8 Saco-Lowell and Saco-Pette Roving Frames, 8x4, 112 to 144 Spindles per Frame.

30 Whiten Spinning Frames, Clutch Spindle, 204 Spindles each, 2" Ring, No. 2 Flange, 4" Gauge, 7" Travers, 4 Frame Motor Drive.

6 Foster Winders, Model 30, 100 Spindles each, Individual Motor Drive.

14 Latest Model B Type Boyce Weaver Knotters.

3 Reels, 50 Spindles each, 54" Skein.

Conditioning Equipment Parks-Kramer Electric or Steam Heat.

16 Bronson Humidifiers, installed about 1922.

1 250 Horse Power Dillon Boiler.

1 Steam Engine, size 18x42, No. 171 H. P. Built by C. H. Brown & Co.

Sets of Machine Shop Equipment:

1 Smith & Courtney Lathe, 14".

1 Gear Cutting Machine.

1 Drill Press.

1 Emory Grinding Stand.

1 Air Compressor.

1 Power Hack Saw.

1 Blacksmith Hand Power Forge.

1 Electric Drill.

1 Threading Die.

1 Pipe Threading Die.

1 Carbide Tank.

2 1½ Ton Standard High Speed Holsts.

1 Boss Waste Press.

1 Centrifugal Fire Pump, Capacity 1,000 Gals. per Minute.

1 Mastfoss Pump.

1 Power Feed Pump for Boiler.

1 Fire Supply Tank, 50,000 Gallons.

1 Commercial Supply Tank, for Mill and Village, 10,000 Gallons.

All machinery, including the fire pump, is electrically driven and equipped with the necessary belting. The spinning is a four-frame drive. All electric switches are conduit safety switches, the Mill building is sprinkled throughout, and carries a very cheap fire rate.

In addition to the foregoing, there is a complete line of bobbins, cans, scales, etc., together with sufficient office furniture and equipment for the operation of the plant on yarn from 8s to 20s.

For further information see the Trustee for inventory and inspection of plant.

All bidders must post a certified check or cash of \$5,000 with the Trustee prior to the beginning of the sale, which amount will be returned to the unsuccessful bidders immediately after the sale, and the check or cash of the successful bidder will be applied on the purchase price, provided he pays the balance of the purchase price by August 1st, 1930,—should the successful bidder fail to comply with these terms, the \$5,000 will be forfeited to the Trustee.

This sale is made subject to the confirmation by the Court, for which purpose a meeting of the Common Creditors has been called at the office of the Hon. H. E. DePass, Referee in Bankruptcy, Spartanburg, S. C., July 10th, 1930, at 3.30 P. M.

H. C. MOORE, Trustee
GAFFNEY, S. C.

PIPE NEW

SECOND HAND
Overhauled and Tested
New Threads and Couplings
Established 1904

**Albert & Davidson
Pipe Corp.**

Second Ave., 50th-51st St., Brooklyn, N. Y.
Telephone Sunset 1900

PIPE

Rethreaded, reconditioned, guaranteed, suitable for all practical purposes, furnished with new threads and couplings, 400,000 feet in all sizes from 24" to ¾".

Also large stock of spiral pipe, sizes 7", 10", 12", 14", 20" and 24".

Large stock of valves and fittings, screwed and flanged. Can make attractive prices.

MARINE METAL & SUPPLY CO.
167 South St., New York City

FOR SALE

The City of Georgetown has the following machinery for sale:

2 Worthington Compound Steam Pumps, size 10x16x8½x10, capacity 500 Gals. per minute each—fully equipped; oil cups, lubricators and Fisher Governors.

1 Worthington Steam Boiler Feed Pump, size 5½x3½x5; fully equipped.

2 Horizontal Tubular Boilers, size 5½ Ft. x 16 Ft. 2 In. with Steam Dome 54; 4 in. Tubes. Inspected by Hartford Boilers Inspection & Insurance Co., pressure allowed 100 Lbs.; fully equipped with steam gauges, water columns, etc.

1 Heater and Water Trap with Steam Pipe and Fittings.

All of the above in A-1 condition. Will be glad to receive communications from all interested parties.

CITY OF GEORGETOWN
Georgetown, S. C.

IRON AND STEEL PIPE

Large quantity new and used Government material in excellent condition, ready for immediate shipment. Low prices.

CENTRAL PIPE & SUPPLY CO.
Box 1099 Charleston, W. Va.

PIPE

Second Hand
and New
Wrought Iron

Overhauled
Rethreaded
and Coupled

Also Cut to Sketch

Greenpoint Iron & Pipe Co., Inc.
187-197 Maspeth Ave. Brooklyn, N. Y.

TANK CAR TANKS

150-10,000 Gal. 150-12,000 Gal.
Many others of various capacities.
Cleaned, Tested, painted, Guaranteed.

ZELNICKER IN ST. LOUIS

Rails, Equipment, Machinery, Steel Piling,
Oil Engines, Tanks, etc.
Send for 60 page Bulletin of Bargains.

8" Galvanized Corrugated Pipe

6000 ft. 8" NEW GALVANIZED CORRUGATED pipe in lengths 16 to 20 ft. suitable for exhaust drains, water systems, sewers, etc. Have the necessary connecting sleeves. Price considerably under the market.

2000 ft. 12" Naylor black asphalted spiral welded slip joint pipe, slightly used.

MARINE METAL & SUPPLY CO.
167 South Street New York City

SATISFACTION

ALBERT PIPE SUPPLY CO., INC.

NEW-RECLAIMED-USED

PIPE

ALL SIZES CUT TO SKETCH
AND STOCKED

**BERRY & NORTH 13th STS.
BROOKLYN, N.Y.**

GUARANTEED

SERVICE PRICES

NEW AIR TOOLS AT 60%

13 size B. "Thor" air motor metal drills (cap'y. up to 2")
48 size C. "Thor" air motor metal drills
20 size 42 "Thor" air motor metal drills
9 size — "Thor" air motor metal drills (Cap'y. up to 9/16")
11 size BW "Thor" air motor metal drills (Cap'y. up to 2")
15 size 8 "Thor" air motor close corner metal drills.
14 4X "Little Giant" air motor metal drills.
12 2X "Little Giant" air motor metal drills.
50 No. 60 "Keller Master" riveting hammers, also several other makes and sizes.

These are absolutely brand new tools on which we will save you 40%.

W. M. SMITH & COMPANY
Box 1709 Birmingham, Ala.



RAILROAD AND CONTRACTORS' EQUIPMENT



FOR SALE

- 14—8-yd. 2-way Dump cars 36" gauge.
- 4—18-ton Porter Locomotives, Saddle Tank, 36" gauge.
- 1—25-ton Porter Locomotive, Saddle Tank, Standard gauge.
- 1—10-ton Steel Guy Derrick, 100' mast, 90' boom, 18' bull-wheel; clamshell operation.
- 1—Class "C" Page Bucket.
- 1—1302 ft. Ingersoll-Rand PRE Compressor, direct connected to 215 H. P. Westinghouse Synchronous motor, 3 phase, 66 cycle, 440 volt; complete with belted exciter, receiver and aftercooler.
- 1—Marion 21 Shovel, Standard, ¾-yard dipper, 4 belt crawler No. 5925.
- 1—Marion 37 Shovel, High Lift, 1¼-yd. dipper, full crawler, No. 5178.
- 1—21-E Koehring with boom and bucket, rebuilt.
- 1—13-E Koehring with boom and bucket, also spout, rebuilt.
- 1—21-S Smith Tilter, power loader, with track.
- 150—Tons J. & L. Piling, Section EC-23.75, 35' long.
- 100—Tons Lackawanna 14" Arch Web, 20' long.
- 50—Tons Larsen No. 2 Piling, 20' long.

D. C. ELPHINSTONE
120 S. Calvert St., Baltimore, Md.

FOR SALE OR RENT

- 2—Keystone Graders, Model No. 4.
- 1—10 ton Monarch 3 wheel Steam Roller.
- 1—5 ton Buffalo Tandem Steam Roller.
- 2—10 ton Buffalo Springfield Steam Rollers.
- Large stock Rock Crushers, Screens and Elevators.

JOHNSON & HOEHLER
Fernwood, Del. Co. Pennsylvania

ELECTRIC DREDGE

15 inch Hydraulic dredge steel pontoon hull pump, directly driven, 500 h. p. motor with flexibles and 2000 ft. of 15" pipe for sale cheap. Located at Jacksonville, Fla.

J. E. PRICE
384 Ocean Ave. Daytona Beach, Fla.

RELAYING RAILS — SWITCHES TRACK MATERIAL

THE PERRY BUXTON DOANE CO.
Pennsylvania Bldg. Philadelphia, Pa.

FLOATING DERRICK

Hull 82x26x4½. Engine 3½x10 triple drums. Steel Derrick, 70 ft. boom. Located on Mississippi River. A No. 1 condition. Bargain.

LEWTER F. HOBBS, INC.
Norfolk, Va.

BEARCATS, PAVERS, ROLLERS, HOISTS

Attractive bargains in used equipment for the road and building contractor.

- 2—27E Koehring Pavers.
- 1—21E Ransome Paver.
- 1—Case 10 Ton Roller.

H. O. Penn Machinery Co., Inc.
140th St. and East River, New York City

Contractors' Equipment

- 1—Marion Model "37" High Lift, Priced Low.
- 1—50 "B" Bucyrus, High Lift, Good Condition, New Cast Steel Underframe, Caterpillar Mounted.
- 1—Marion Model "350", 90' Boom, 60' Stick, 6 Yd. Bucket. Very reasonably priced.
- 1—Erie "B" ¾Yd. Full Crawler, 2 Speed.
- 1—Air Compressor, Sullivan, 110' Portable.
- 1—Air Compressor, Sullivan, 220' Portable.
- 1—"21" Parsons Ditcher, Good Condition.

DEMPSTER EQUIPMENT COMPANY
KNOXVILLE, TENN. . . . TEL. 2-4109
RENT — LEASE — SELL
SHOVELS — CRANES — LOCOMOTIVES —
CARS — AIR COMPRESSORS

IDLE MACHINERY

Can be
Disposed of
by
Advertising
it in the

Manufacturers Record
Baltimore, Md.

FOR SALE

20 inch Hydraulic Dredge Steel Hull Oil Burning.

H. P. GUION
803 West 42nd St. New York City
Pennsylvania 4134

Rebuilt and Reconditioned Excavators

For Sale, or Lease With
Option to Buy

Marion No. 32 1 Yard Steam
Shovel on full crawlers. Ready for immediate delivery. An exceptional bargain, located at Pittsburgh.

P&H Model 204, ¾ yard Clam-
shell, 35 foot boom. Has been very carefully reconditioned. At Hoboken plant.

Thew 1 yard Steam Shovel, on wheels with 20 foot boom. Must move quick, no reasonable offer refused. At New York.

P&H Model 400 Dragline, ¾ yard, in good shape, ready to go. Located at Memphis.

Erie Gas-Air 1 yard Clamshell Crane. Looks and operates like new. At Chicago.

P&H Model 206 ¾ yard Shovel. Thoroughly overhauled and in very good operating condition. At Hoboken plant.

Liberal  Terms

Write or wire at our expense
if you do not see what you want

EXCAVATING EXCLUSIVELY EQUIPMENT EXCAVATING DEALERS, INC. EQUIPMENT

Hoboken, N. J. Berkeley, Cal.
1706 Willow Ave. 2657 Ninth St.
West Allis, Wis.
5905 Greenfield Ave.
Los Angeles Chicago, Ill.
2245 E. 37th St. 1040 W. Division St.

IMMEDIATE SHIPMENT

4000 tons of 85 lb. ASCE Open Hearth rail with angle bars. Attractive prices quoted. Wire or write for prices.

M. K. FRANK
220 East 42nd Street Clark Building
New York City Pittsburgh, Pa.

RAILROAD and CONTRACTORS EQUIPMENT

- 40 Standard and 36" Gauge Modern Direct-connected Locomotives, in all types and weights from 8 to 75 tons.
- 10 Standard and 36" Gauge Geared Locomotives, all weights.
- 15 Steam Shovels and Locomotive Cranes of different types and sizes.
- 3000 Tons Relaying Rails, all sizes, on our Birmingham yards.
- 100 Sets 35 and 40-lb. Frogs and Switches; good as new.

Tie plates, track spikes and track bolts, immediate shipment from Birmingham stock

Your inquiries will receive careful and prompt attention
BIRMINGHAM RAIL & LOCOMOTIVE CO., Birmingham, Ala.

YOU may replace certain machinery in your plant this year. Let us help you sell the equipment you will no longer need by advertising it in

THE RESALE DEPARTMENT
Manufacturers Record **Baltimore, Md.**



SHOVELS
1/2-1 1/4 and
1 1/2 yd. capacity




CRANES
6-10-12-15-17 and
20 ton capacity

NORTHWESTS

FACTORY REBUILT with NEW MACHINE GUARANTEE

These machines have been completely rebuilt in our factory and carry the same guarantee as new equipment. Write or wire.

NORTHWEST ENGINEERING CO.
1833 Steger Building
Chicago, Illinois
U.S.A.



PULLSHOVELS



DRAGLINES

If interested in —

Hoists, Derricks, Cableways

or special equipment write for this book

"Your Own Success"

Good tools and good equipment are essential to success.
Lidgerwood machines have success built in them.

Lidgerwood Manufacturing Company

ELIZABETH, NEW JERSEY

Hoist and Derrick Headquarters
for 57 years.

INDUSTRIAL CAR EQUIPMENT



THE ATLAS CAR & MANUFACTURING CO.
Cleveland, Ohio


CARS KOPPEL TRACK

KOPPEL for all engineering and industrial uses

KOPPEL INDUSTRIAL CAR & EQUIPMENT CO.
KOPPEL, PA.

NEW YORK CHICAGO
SAN FRANCISCO PITTSBURGH

SAUERMAN "CRESCENT" SCRAPER



The World's lowest cost long-range excavator.
Made in 15 sizes to handle from 10 to 600 tons per hour.

SAUERMAN BROS., INC.
490 S. Clinton St. Chicago

EASTON CARS



for every industrial purpose
Any type to your or our design

EASTON CAR & CONSTRUCTION CO.
10 E 40th Street, New York City. EASTON, PENNA.
PHILADELPHIA PITTSBURGH CHICAGO

THE INDUSTRIAL WORLD ROLLS ON SWEET'S TRACK MATERIALS



Manufacturers of Rails, Frogs, Switches, for Permanent and Portable Track. Complete line of Steel Posts for Fence and other purposes.

Catalog will be sent on request

SWEET'S STEEL COMPANY
MANUFACTURERS
WILLIAMSPORT PENNA.

WHITCOMB LOCOMOTIVES



2 to 100 TONS
GEAR DRIVE AND OIL-ELECTRIC
GASOLINE - DISTILLATE - DIESEL - BATTERY

Write for Bulletin and Performance Data
GEO. D. WHITCOMB CO.
ROCHELLE, ILLINOIS

IF YOU WANT TO GET

Southern Business
Advertise in the
MANUFACTURERS RECORD

CLYDE

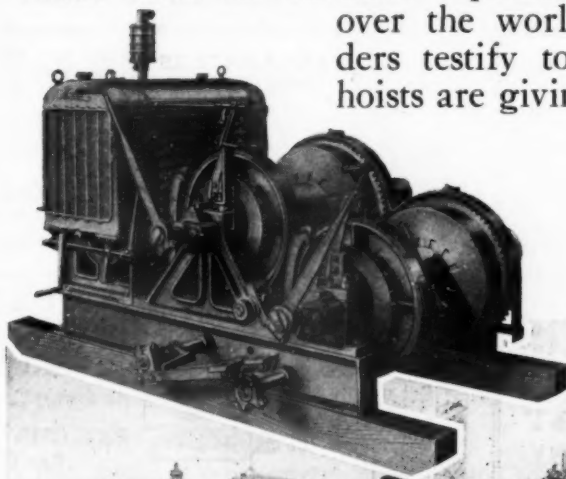
HOISTS - DERRICKS

On the corner of Main and Monroe Streets in Memphis, Tenn., the new William Len Hotel is now under construction by the W. F. Ault Company. On this job a Clyde 35 horsepower 2 drum gasoline hoist is working, giving the same unexcelled quality of service and efficiency that has made such an enviable reputation for Clyde hoists all over the world. Constant repeat orders testify to the satisfaction Clyde hoists are giving.

You'll take **PRIDE**



In your **CLYDE**



CLYDE IRON WORKS SALES CO.

DISTRIBUTORS FOR CLYDE IRON WORKS DULUTH, MINNESOTA

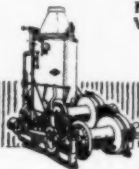
—BRANCHES—

NEW ORLEANS: 309 MAGAZINE ST.
 PORTLAND, OREGON: 555 THURMAN ST.
 SEATTLE: 3410 FIRST AVENUE SOUTH
 CHICAGO: 11 SO. LA SALLE STREET

MEMPHIS: 69 UNION AVENUE
 NEW YORK: 856 EAST 136TH STREET
 VANCOUVER, . . . BRITISH COLUMBIA
 1325 STANDARD BANK BLDG.



TWO MARKS OF



GUARANTEED QUALITY



CONCRETE BARROWS



FACTORY
LANSING, MICH.

BRANCHES
BOSTON-CHICAGO
PHILADELPHIA
KANSAS CITY
MINNEAPOLIS
SAN FRANCISCO
NEW YORK

LANSING-COMPANY

STREET HOISTS


STEAM - ELECTRIC - GASOLINE



STREET BROS. MACHINE WKS. INC.
Chattanooga, Tenn.

Hoist's Derricks cableways

BOTTOM DUMPING and TURN-OVER BUCKETS



Write us for information on Contractors Buckets

G. L. Stuebner Iron Works, Inc.
Manufacturers of Material Handling Equipment
So. Hancock St. Long Island City, N. Y.

EXCAVATORS DRAGLINES P&H SHOVELS CRANES



Get Bulletins with complete description of new models. Made in sizes from 1/2 to 3 1/2 cu. yds. All convertible.

HARNISCHFEGGER CORPORATION
3827 National Ave., Milwaukee, Wis.

Hayward Buckets

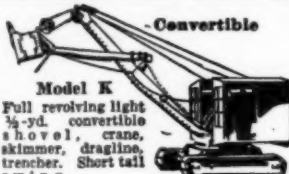


CLAM SHELL BUCKETS

"Dig for all the World"

THE HAYWARD COMPANY
50-52 Church St., New York, N.Y.

POWER SHOVELS
Cranes, Trenchers
SKIMMERS



Model K
Full revolving light 1/2-yd. convertible shovel, crane, skimmer, dragline, trencher. Short tail swing.

Full or part circle

BAY CITY SHOVELS, Inc.
Bay City, Mich.

Owen Buckets



Greater Digging Power
Faster Operation
Longer Life
Guaranteed Against Breakage

They get
"A Mouthful at Every Bite" and More Bites Per Day

THE OWEN BUCKET CO.
4010 BREAKWATER AVENUE, CLEVELAND, O.

BUCYRUS ERIE

SHOVELS CRANES DRAGLINES DREDGES

KNOWN RELIABILITY!
Bucyrus-Erie equipment is known the world over, for dependable, low-cost operation. Shovels, Draglines, Cranes—all sizes—Gas, Diesel, Electric, Gas + Air, Diesel + Air, Steam. Also Railway Cranes, Spreader Plows, etc. Write for bulletins.

BUCYRUS-ERIE COMPANY
So. Milwaukee, Wis., Evansville, Ind., Erie, Pa.

ELLCOTT MACHINE CORPORATION

Hydraulic Dredges—Sand and Gravel Dredges
Pumps for Sand, Gravel, Dredging
Hydraulic Dredging Machinery
Heavy Machinery

1111 Bush Street BALTIMORE, MD., U. S. A.

Hydraulic Dredges
Dipper Dredges
Sectional Steel Hulls and Barges

American Steel Dredge Co.
Fort Wayne, Indiana U. S. A.

LARGEST PLANT

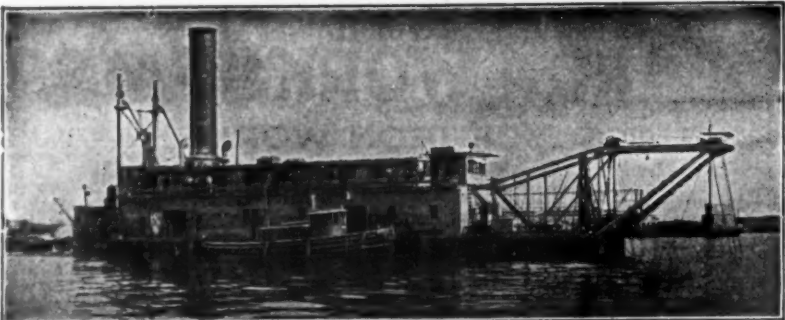
Filling, Land Reclamation, Canals and Port Work

River and Harbor Improvements, Deep Waterways and Ship Channels.

Correspondence Invited from Southern Officials and Corporate and Private Interests Everywhere.

NEW YORK
21 Park Row

DREDGING



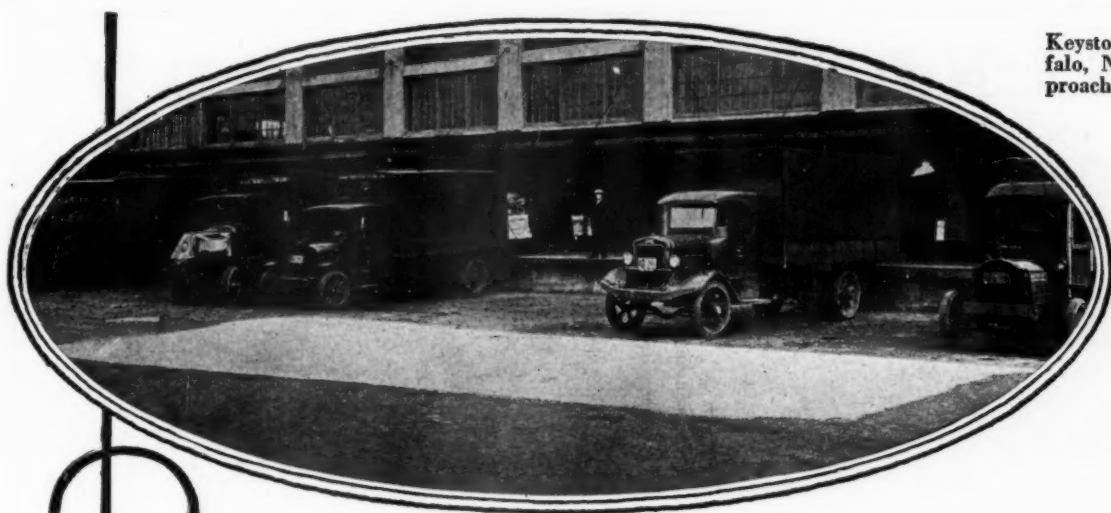
LONGEST EXPERIENCE

We are especially equipped to execute all kinds of dredging, reclamation and port works in Southern waters.

CONTRACTORS
TO THE
FEDERAL GOVERNMENT

HOUSTON
Scanlan Bldg.

Atlantic, Gulf and Pacific Company



Keystone Warehouse, Buffalo, N. Y. Concrete approach in use at 36 hours

READY FOR USE *in 36 and 24 HOURS*

THOUGH you may not be engaged in road construction, you are interested in the practical application of ALPHA CEMENT in concrete where high early strength is required.

Early use, regular equipment and the cost of materials make high early strength ALPHA CEMENT concrete a real economy.

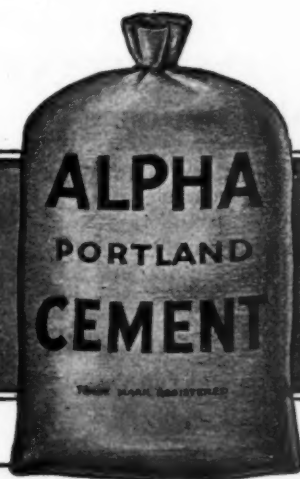
The ALPHA CEMENT concrete used to repair the stone block pavement to the loading platform of one of the largest warehouses in Buffalo, N. Y., was opened to heavy truck traffic at 36 hours. The driveway to the filling station was in use 24 hours after concrete was placed.

For high early strength, watertightness and general work, standard ALPHA PORTLAND CEMENT will give you the results you desire.

Helpful literature sent upon request.



Filling Station, Williamsville, N. Y. Concrete driveway in use at 24 hours



ALPHA PORTLAND CEMENT COMPANY

BALTIMORE - BATTLE CREEK, MICH. - BIRMINGHAM, ALA. - BOSTON - CHICAGO -
EASTON, PA. - IRONTON, OHIO - NEW YORK - PHILADELPHIA - PITTSBURGH - ST. LOUIS

SAND

Bank Building Concrete Paving

WASHED GRAVEL

In Car, Scow and Barge Lots

COMMERCIAL BLAST FURNACE SLAG

THE ARUNDEL CORPORATION

BALTIMORE, MD.

Office, PIER 2, PRATT STREET

Wharves: PIER 2, PRATT ST., and FOOT OF CLINTON ST.

SAND—GRAVEL—BRICK FILTER GRAVEL

Washed Sand and Gravel for Concrete
Roads and Buildings

Filter Gravel, all sizes—Building Bricks

FRIEND & CO., INC. River St., Petersburg, Va.



for economy and perma-
nence in Road Building and
General Construction

WOODSTOCK SLAG CORP.

Southern Railway Bldg., Birmingham, Ala.

Crushed Stone
Mascot Chatts Roofing Gravel
Asphaltic Roadway Gravel
Asphalt Filler Dust

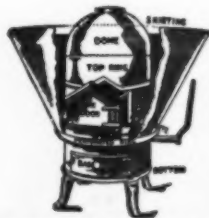


AMERICAN LIMESTONE COMPANY
KNOXVILLE TENNESSEE

SAND DRYERS

(With or without External Gratings)

A portable machine, daily capacity 5 to 7 tons.



This dryer has a low first cost, is easily and cheaply operated and guaranteed dry sand.

The low cost makes it valuable for companies needing dry sand on two or more jobs at the same time, thereby eliminating the handling cost of one point only.

Write for descriptive pamphlet

The Ripley Foundry & Machine Co.
Ripley, Ohio

For Contractors, Railroads,
Trolley Lines, Coal Com-
panies, Industrial Plants,
Foundries.

GET

GULF

and GET AHEAD

POWER—PICK-UP MILEAGE

400° F END POINT
ANTI-KNOCK

AT NO EXTRA COST

GULF NO-NOX MOTOR
FUEL is Aviation Grade
374° F. End Point.

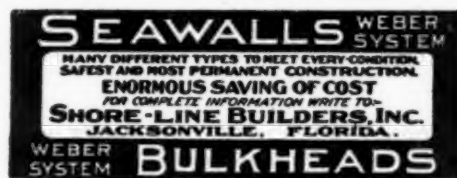
At the Sign of the Orange Disc

GULF REFINING CO.

DRYERS

FOR ALL MATERIALS

AMERICAN PROCESS CO. Dodge Bldg., NEW YORK CITY
53 Park Place



CRUSHED LIMESTONE Best for All Purposes

We manufacture all sizes of stone suitable for all classes of road building and concrete work where only a high-grade limestone is required.

Quarries opened up in 1912.

Capacity 4000 tons daily.

Quarries

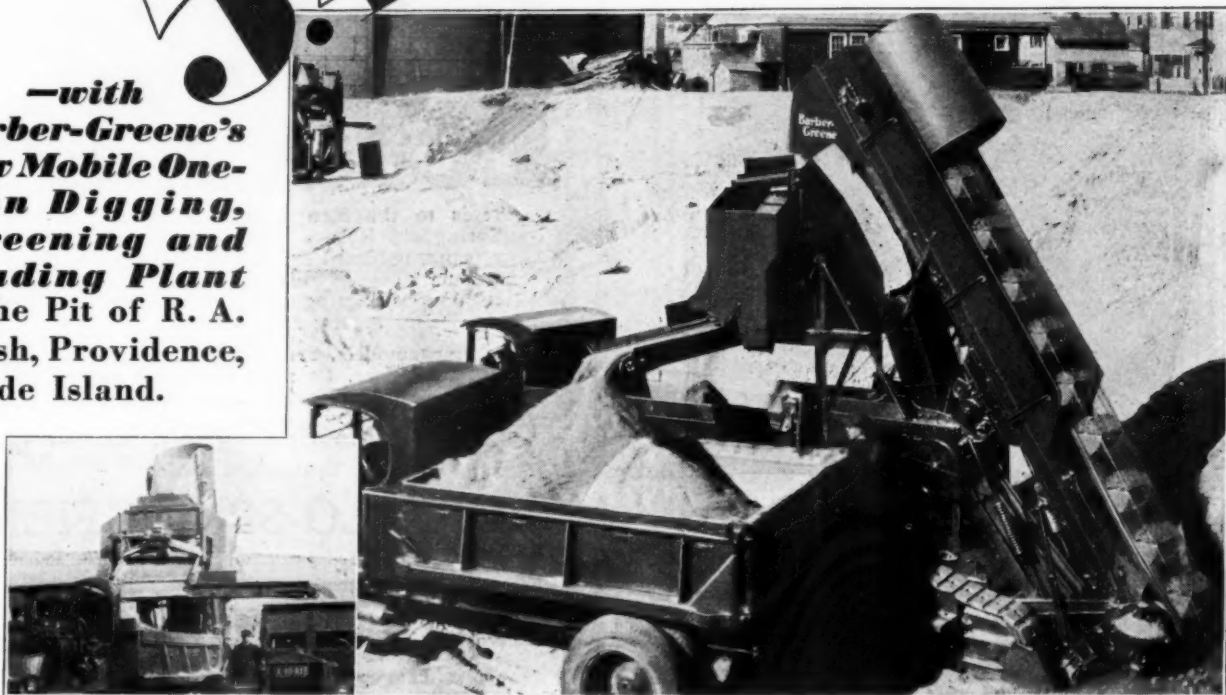
Blue Ridge, Va. Pembroke, Va. Pounding Mill, Va.

W. W. BOXLEY & COMPANY

Room 711, Boxley Building, - ROANOKE, VA.

Producing Gravel and Sand Screened at 5.45 Cents per Yard

*—with
Barber-Greene's
New Mobile One-
Man Digging,
Screening and
Loading Plant
in the Pit of R. A.
Walsh, Providence,
Rhode Island.*



Out of the chute comes screened gravel—off the conveyor comes screened sand—oversize is dropped close to the loader or off the conveyor with the sand. On the left is close-up of chute and conveyor

ABOUT the first of the year Barber-Greene announced a brand new, self-propelled, one-man machine that is essentially a one-man sand and gravel plant.

It digs from the bank, takes out oversize, screens sand and gravel on the same type high frequency screen used in the finest big plants.

In short it is a high efficiency plant in one small, compact, low-cost, self-moving package.

Two months ago one of the first of these machines went into the service of R. A. Walsh, at Providence, Rhode Island.

Before April 1st, Mr. Walsh estimated that the Barber-Greene had repaid him 55 to 60% of its investment.

The daily yardage of perfectly screened gravel is from 300 to 400 cubic yards—the pit runs 65% sand to 35% gravel.

Operating costs are limited to the \$30.00 per week paid the operator and 50c per hour paid his helper, plus the usual low charges paid for the gas and oil.

The actual cost of each yard of sand and gravel has been cut to 5.45 cents.

There is no machine in the world like this Barber-Greene. It gives you practically everything you get in a big, expensive plant, including a high-frequency, 1600 v.p.m. Leahy Screening Plant.

And it gives you those things in a crawler-mounted one-man machine—with low initial costs—with low operating costs.

If you are faced with the job of getting sand and gravel out of a small pit—or if you seek auxiliary or more flexible big pit performance—look into this latest Barber-Greene.

For complete information for your own job, write today to

BARBER GREENE

560 West Park Ave.

Aurora, Illinois

At the Bottom of Every Well Laid Safety Plan

Central "Knobby" Non-Skid Floor Plates guard life and limb from the dangers of slip-fall accidents,---and protect against the high Maintenance costs of wood, concrete and tile floors. Let us send you a sample and tell you about their many advantages.

Central Iron & Steel Co.
HARRISBURG, PENNA.

REG. U.S.
PAT. OFF.

Branches in all
Principal
Cities

Underwriters'
Laboratories
Inspected
S. A. 443

CENTRAL
"KNOBBY" NON-SKID FLOOR PLATES



Leadership
It is to the men already using Buffalo-Springfield Rollers that we direct you for a frank, unbiased opinion of their practical worth. They, of all men, can best explain why the Buffalo-Springfield is, and long has been, the leader among road rollers.

Various models, steam and motor driven. All practical sizes. Scarifier and other attachments when desired. Booklet upon request.

The Buffalo-Springfield Roller Co.
Springfield, Ohio

BUFFALO-SPRINGFIELD

FLOOR NEVERSLIP PLATES

"The Plate with Perfect Diamonds"

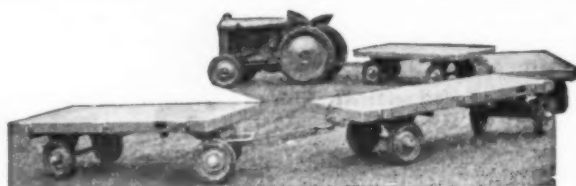
AMERICAN PRESSED STEEL CO.

Commercial Trust Building—Philadelphia—Penn.

ASPHALT PLANTS

THE SIMPLICITY SYSTEM COMPANY

CHATTANOOGA, TENNESSEE



EWC TRAILERS are made for every industrial haulage purpose. Special trucks and trailers designed and built for individual requirements.

TRUCKS and WHEELS for mounting portable machinery of all kinds, any size and capacity.

TELL US your hauling problem and let us suggest the equipment for it.

ELECTRIC WHEEL COMPANY
5 Ohio Street QUINCY, ILL.

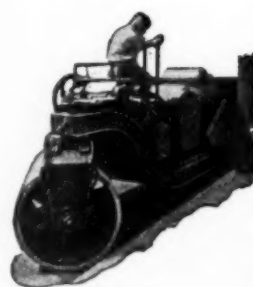
Tamping Costs Go Down!

There's far less time put in on hand tamping when you put down the asphalt with an ERIE Roller—

Better clearance, easier steering, shorter turning radius allow the ERIE to get into the close places and compact the asphalt close to curbs, corners, manholes, etc.

Write today for Bulletin "M".

ERIE MACHINE SHOPS
Erie, Pa.



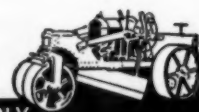
ERIE ROLLERS
FOR THE TOWN—SAME HIGH QUALITY

HUBER

4 CYLINDER
MOTOR ROLLER
THE HUBER MANUFACTURING COMPANY
310 E. CENTER—MARION, O. SEND FOR CATALOG

ACME ROAD MACHINERY COMPANY, FRANKFORT, N.Y.

ACME
Scarifiers



ACME ROAD MACHY. CO. FRANKFORT, N.Y.

It's tractive effort that moves dirt!

Two pairs of wheels in tandem, and a positive drive on each of the four!

This Austin Dual Drive 12½-25 Grader sticks to the road like a cat. Take this grader to the slipperiest clay road you can find. See if you can spin the wheels! This unique and effective drive gives the motor a toe-hold on the road. You can stall this Austin Dual, of course, but you can't keep the motor running in gear without going somewhere.

Motor horsepower doesn't mean anything unless you can exert it effectively at the treads of the driving wheels. The Austin Dual Drive spreads tractive effort over four distinct areas. You are sure to get traction in at least one of them under practically any conditions.

That's why this grader won't "crab" down a lateral grade. Why it enables you to work roads wet. And why it puts more miles of conditioned road behind it during the working day.

An interesting description of the Austin Dual Drive will be mailed on request. The Austin-Western Road Machinery Co., 400 North Michigan Avenue, Chicago, Illinois. Branches in principal cities.



Notice how the Austin Dual crawls over road inequalities. In this illustration the front and rear wheel on opposite sides are in extreme raised positions, but see how level the frame remains, keeping the blade at the adjusted position. Regular blade length is ten feet. Larger blades can be furnished.

The Western Motor Maintainer (Tandem Drive) is a medium-size grader (eight-foot blade) ideal for the situation that does not justify the expenditure for large, heavy duty equipment. It is just the machine for the contractor in leveling fills or working between forms. It also meets the requirements of the majority of townships, villages, and road districts.

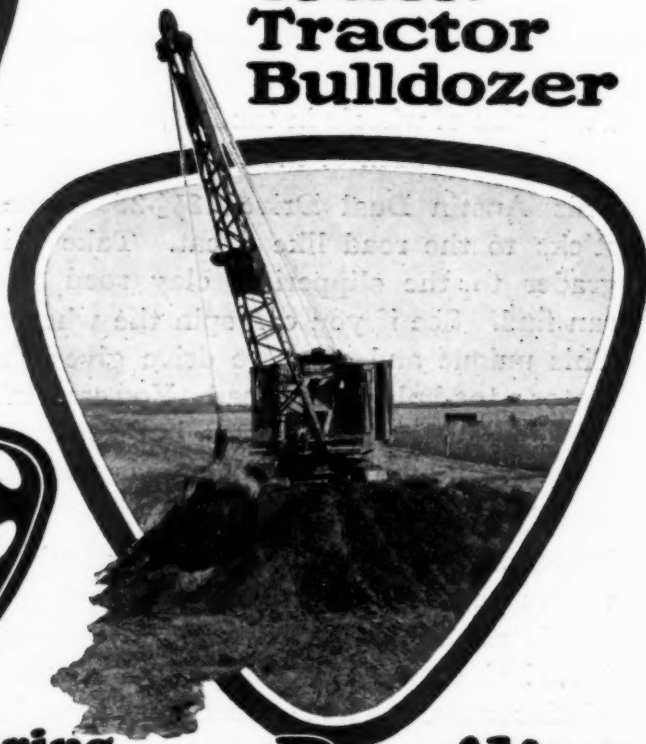


Austin-Western ROAD MACHINERY

KOEHRING

DUMPTOR

Truck
Tractor
Bulldozer



Koehring Dumptor

Truck — Tractor — Bulldozer — the Koehring Dumptor is a three-in-one profit earner! 5 cu. yd. struck measure capacity.

Low, broad steel body — easy to "spot" a dragline or clamshell bucket above it. Low enough for mechanical loading!

No turning on dump. Driver sits behind the load—sees where he's going, dumps, and backs out!

Two motors, one for each multi-plane — throttle steering. Four speeds, 1, 2, 3 $\frac{3}{4}$, 5 miles per hour forward. Write for Dumptor catalog.

Koehring Dragline

with Swivel Boom
Point Fairlead

Stops the excessive cable wear due to angle pull of cable to boom. Swivel boom point fairlead always self-aligns with cable. Makes a great saving in cable cost.

Finger-Tip ease of control, with no loss of the "feel" of the load, makes possible confident high speed accuracy in operation!

Straight line pull — one drum behind the other! Fast line speed! Know the Heavy Duty Koehring!

Dragline

N. E. C. PRODUCTS

KOEHRING
Pavers, Mixers; Power Shovels,
Pull Shovels, Cranes, Draglines;
Dumptors.

INSLEY
Excavators; Concrete Placing
Equipment, Cars, Buckets,
Derricks.

T. L. SMITH
Tilting and Non-tilting Mixers,
Pavers, Weigh-Mix.

PARSONS
Trench Excavators, Backfillers.

C. H. & E.
Portable Saw Rigs, Pumps,
Hoists, Material Elevators.

KWIK-MIX
Mixers; Concrete, Plaster
and Mortar.

National Equipment Corporation

30th St. & Concordia Ave.
Milwaukee, Wisconsin

J. L. Hart Machinery Co., 407 Eunice Ave., Tampa, Fla.; Wilson-Weesner-Wilkinson Co., 108 Fatherland St., Nashville, Tenn.; Graham B. Bright, 901 Electric Bldg., Richmond, Va.; W. C. Cays & Company, 100 Walker St., Atlanta, Ga.; Young & Vann Supply Co., 1725 First Ave., Birmingham, Ala.; General Equipment Machinery Co., Inc., 116 N. E. Sixth St., Miami, Fla.; Carolina Contractors Equipment & Supply Co., P. O. Box 570, Columbia, S. C.; D. C. Elphinstone, Inc., 120 South Calvert St., Baltimore, Md.

A 5845-I

Full loads *with* "Caterpillar" Tractors



Plenty of power—the sure traction that conquers sand and mud—positive steering—*thus are full loads assured to the earth mover**. Wide "Caterpillar" tracks bridge soft spots and wet—they worry about the weather not at all! So are jobs completed in record time—so is the owner of "Caterpillar" equipment able to handle a greater number of jobs at greater profits!

Prices—f. o. b. Peoria, Illinois

TEN	\$1100	TWENTY	\$1900
FIFTEEN	\$1450	THIRTY	\$2375
SIXTY	\$4175		

Caterpillar Tractor Co.

PEORIA, ILL., and SAN LEANDRO, CALIF., U.S.A.
Track-type Tractors / Combines / Road Machinery
(There is a "Caterpillar" Dealer Near You)

CATERPILLAR
REG. U.S. PAT. OFF.
T R A C T O R

*The picture shows a "Caterpillar" being used to enlarge the airport at Long Beach, California.

Classified Reference Index for Buyers

ABRASIVE MATERIALS.

Carborundum Co., Niagara Falls, N. Y.

—(Rock.)

Kentucky Rock Asphalt Co., Louisville, Ky.

ACCOUNTANTS (Cert. and Cost.)

Black & Co., Baltimore, Md.
Ernst & Ernst, New York, N. Y.
Hollowell Gorham & Co., Greensboro, N. C.
Le Baron, E. T., Jacksonville, Fla.

AUDITORS.

Black & Co., Baltimore, Md.
Ernst & Ernst, New York, N. Y.
Hollowell Gorham & Co., Greensboro, N. C.
Le Baron, E. T., Jacksonville, Fla.

AERIAL MAPS and SURVEYS.

Airmap Corp. of Amer., Brooklyn, N. Y.
Lacey & Co., Jas. D., New York, N. Y.

BABBITT METAL.

Ryerson & Sons, Inc., Jos. T., St. Louis and New York.

AIR COMPRESSORS (Stationary and Portable.)

Chicago Pneumatic Tool Co., New York.
De Laval Steam Turbine Co., Trenton, N. J.
General Electric Co., Schenectady, N. Y.
Lagerell-Rand Co., New York, N. Y.
New Engine Co., Lansing, Mich.
O. K. Clute & Mch. Co., Columbia, Pa.
Quincy Compressor Co., Quincy, Ill.
Sullivan Machinery Co., Chicago, Ill.
Westinghouse Traction Brake Co., Wilkes-Barre, Pa.

AIR CONDITIONING SYSTEMS.

Skinner Bros. Mfg. Co., St. Louis, Mo.
Swartwout Co., Cleveland, Ohio.

AIRPORTS.

Shaw Co., Russell B., St. Louis, Mo.

ALUMINUM BRONZE POWDER.

Aluminum Co. of Amer., Pittsburgh.

AMMONIA Valves and Fittings.

Vogt Mch. Co., Henry, Louisville, Ky.

ANGLE IRON-WORKING MACHINERY.

Whitney Metal Tool Co., Rockford, Ill.

APPRAISERS.

American Appraisal Co., Milwaukee, Wis.
Conard & Buzby, Burlington, N. J.
Mala, Inc., Chas. T., Boston, Mass.

ARCHITECTS.

Bend, Geo. Harwell, Atlanta, Ga.
Chase, Wm. J. J., Atlanta.
Lindsay, Claude H., Jackson, Miss.
Mala, Inc., Chas. T., Boston, Mass.
Milburn, Heister & Co., Wash., D. C.
Meyer Co., Tishman, Allentown, Pa.
Simmons, Inc. & Associates, B. Stanley, Washington, D. C.
Freacher & Co., Inc., G. Lloyd, Atlanta.
Stirline & Co., J. E., Greenville, S. C.
Wheeler, Walter H., Minneapolis, Minn.
Widner Engineering Co., St. Louis, Mo.

—(Golf Course, Landscape.)

Draper, E. S., Charlotte, N. C.
Kirby & Co., Raleigh, N. C.
Miller & Asso., Wendell P., Columbus, O.
Spoon & Lewis, Greensboro, N. C.

ARCHITECTS' SUPPLIES.

Weber Co., Inc., F., Philadelphia, Pa.

ARCHITECTURAL BRONZE.

Chase Brass & Copper Co., Waterbury, Conn.

—Iron Work.

Dietrich Brothers, Baltimore, Md.
Virginia Bridge & Iron Co., Roanoke, Va.

ASH Removal Systems (Gates, Heppers, Quenchers, etc.)

Allen-Sherman-Hoff Co., Phila., Pa.

—Sluicing Systems.

Allen-Sherman-Hoff Co., Phila., Pa.

—Storage Tanks (Cast Iron.)

Allen-Sherman-Hoff Co., Phila., Pa.

ASPHALT.

Gulf Refining Co., Pittsburgh, Pa.

—Filler.

American Limestone Co., Knoxville, Tenn.
Servicised Premoulded Products, Inc., Chicago, Ill.

BENCH LEGS.

Angle Steel Stool Co., Plainwell, Mich.

—Drawers (Steel.)

Angle Steel Stool Co., Plainwell, Mich.

BENCHES AND TABLES.

(Steel.)
Angle Steel Stool Co., Plainwell, Mich.

BILLETS (Basic Open Hearth.)

Gulf States Steel Co., Birmingham, Ala.
Republic Steel Corp., Youngstown, Ohio.
Tennessee Coal, Iron & Railroad Co., Birmingham, Ala.

BINS (Drill and Reamer.)

Angle Steel Stool Co., Plainwell, Mich.

—(Steel Loading.)

Blaw-Knox Co., Pittsburgh, Pa.

BLASTING POWDER and Accessories.

Du Pont de Nemours & Co., E. I., Wilmington, Del.
Hercules Powder Co., Inc., Wilmington, Del.

BLINDS (Venetian and Awning.)

Wilson Corp., The J. G., New York.

BLOCKS (Chain.)

Harrington Co., The, Philadelphia, Pa.

—TACKLE for Wire and Manila Rope.

Patterson Co., W. W., Pittsburgh.

BLOWERS and Exhaust Fans.

National Blow Pipe & Mfg. Co., Ltd., New Orleans, La.

BLOW PIPE SYSTEMS.

National Blow Pipe & Mfg. Co., Ltd., New Orleans, La.

Skinner Bros. Mfg. Co., St. Louis, Mo.

BOILERS (New.)

Babcock & Wilcox Co., The, New York.
Charleston Dry Dock & Machine Co., Charleston, S. C.
Chattanooga Boiler & Tank Co., Chattanooga, Tenn.

Cole Mfg. Co., R. D., Newnan, Ga.

Combustion Engr. Corp., New York, N. Y.

Hedges Walsh Weldner Co., Chattanooga, Tenn.

Lombard Iron Works & Supply Co., Augusta, Ga.

Schofield's Sons Co., J. S., Macon, Ga.

Titusville Iron Works Co., Titusville, Pa.

Vogt Mch. Co., Henry, Louisville, Ky.

—(Used.)

Delta Equipment Co., Philadelphia, Pa.

O'Brien Machinery Co., Philadelphia, Pa.

Randle Machinery Co., The, Cincinnati, O.

Zeineker Supply Co., W. A., St. Louis.

BOILER SETTINGS.

Harbison-Walker Refractories Co., Pittsburg.

—Tubes.

Boiler Tube Co. of America, Pittsburgh.

National Tube Co., Pittsburgh, Pa.

Ryerson & Son, Inc., Jos. T., St. Louis and New York.

—Tubes (Charcoal, Iron.)

Reading Iron Co., Reading, Pa.

BOLTS, Rivets, Studs, Washers.

Bethlehem Steel Co., Bethlehem, Pa.

Progressive Mfg. Co., Torrington, Conn.

Republic Steel Corp., Youngstown, Ohio.

Russell, Burdall & Ward Bolt & Nut Co., Port Chester, N. Y.

Ryerson & Son, Inc., Jos. T., St. Louis and New York.

Virginia Bridge & Iron Co., Roanoke, Va.

—(Track.)

Sweet's Steel Co., Williamsport, Pa.

BOND BUYERS.

Garraway & Co., S. G., Chicago.

Hanchett Bend Co., Inc., The, Chicago.

Law & Co., A. M., Spartanburg, S. C.

Marx & Co., Birmingham, Ala.

Mercantile Trust Co., Baltimore, Md.

Nureen & Co. John, Chicago, Ill.

Provident Savings Bank and Trust Co., Cincinnati, Ohio.

Robinson-Humphrey Co., Atlanta, Ga.
Seasongood & Mayer, Cincinnati, Ohio.
Taylor, Wilson & Co., Inc., Cincinnati, Ohio.

BOHRING (Core.)

Mott Core Drilling Co., Huntington, W. Va.
Pennsylvania Drilling Co., Pittsburgh, Pa.
Southern Drilling Co., Saltville, Va.
Sprague & Henwood, Inc., Scranton, Pa.

BOXES (Paper.)

Old Dominion Box Co., Lynchburg, Va.

BRASS GOODS.

Chase Brass & Copper Co., Waterbury, Conn.
Copper and Brass Research Asso., New York.
Mueller Co., Decatur, Ill.

BRICK (Common Building.)

Friend & Co., Inc., Petersburg, Va.

—(Face.)

Alabama Clay Prod. Co., Birmingham.

—(Fire.)

Alabama Clay Prod. Co., Birmingham.
Cambria Clay Products Co., Blackfork, O.
Dee Co., Wm. E., Oak Hill, Ohio.
Taylor Sons Co., Charles, Cincinnati.

—(Vitrified, Paving.)

National Paving Brick Mfrs. Asso., Washington, D. C.

—and Clayworking Machy.

Dunn Mfg. Co., W. E., Holland, Mich.
Steel & Sons, J. C., Statesville, N. C.

BRIDGE (Asphalt Flanking.)

Servicised Premoulded Products, Inc., Chicago, Ill.

—Operating Machinery

Earle Gear & Machine Co., Phila., Pa.

—Timber.

Amer. Crocoting Co., Louisville, Ky.
Industrial Lumber Co., Elizabeth, La.
Kirby Lumber Co., Houston, Texas.

BRIDGES (Concrete.)

Atlantic Bridge Co., Greensboro, N. C.

—(Crescoted Wood.)

Atlantic Bridge Co., Greensboro, N. C.

—(Steel.)

American Bridge Co., New York, N. Y.
Atlantic Bridge Co., Greensboro, N. C.
Belmont Iron Works, Philadelphia, Pa.
Bristol Steel & Iron Works, Inc., Bristol, Va.
Champion Bridge Co., Wilmington, O.
Converse Bridge & Steel Co., Chattanooga, Tenn.
Ingalls Iron Works Co., Birmingham, Ala.
McClintic-Marshall Co., Philadelphia, Pa.
Nashville Bridge Co., Nashville, Tenn.
Richmond Struc. Steel Co., Richmond, Va.
Virginia Bridge & Iron Co., Roanoke, Va.

BRONZE (Architectural.)

Heath Company, J. S., Waukegan, Ill.

—(Machine.)

Moccasin Brushing Co., Chattanooga, Tenn.

BUBBLERS.

Rundie-Spence Mfg. Co., Milwaukee, Wis.
Taylor Co., Halsey W., Warren, Ohio.

BUCKETS (Clam Shell.)

Blaw-Knox Co., Pittsburgh, Pa.
Hayward Co., The, New York, N. Y.
Industrial Brownhoist Corp., Cleveland, O.
Owen Bucket Co., The, Cleveland, Ohio.

—(Dredging, Excavating, Sewer, etc.)

Hayward Co., The, New York, N. Y.
Monaghan Mfg. Corp., Chicago, Ill.
Owen Bucket Co., The, Cleveland, Ohio.
Stuebner Iron Works, G. L., Long Island City, N. Y.

—(Elevator.)

Hendrick Mfg. Co., Carbondale, Pa.
Webster & Weller Mfg. Companies, Chicago, Ill.

—(Orange Peel.)

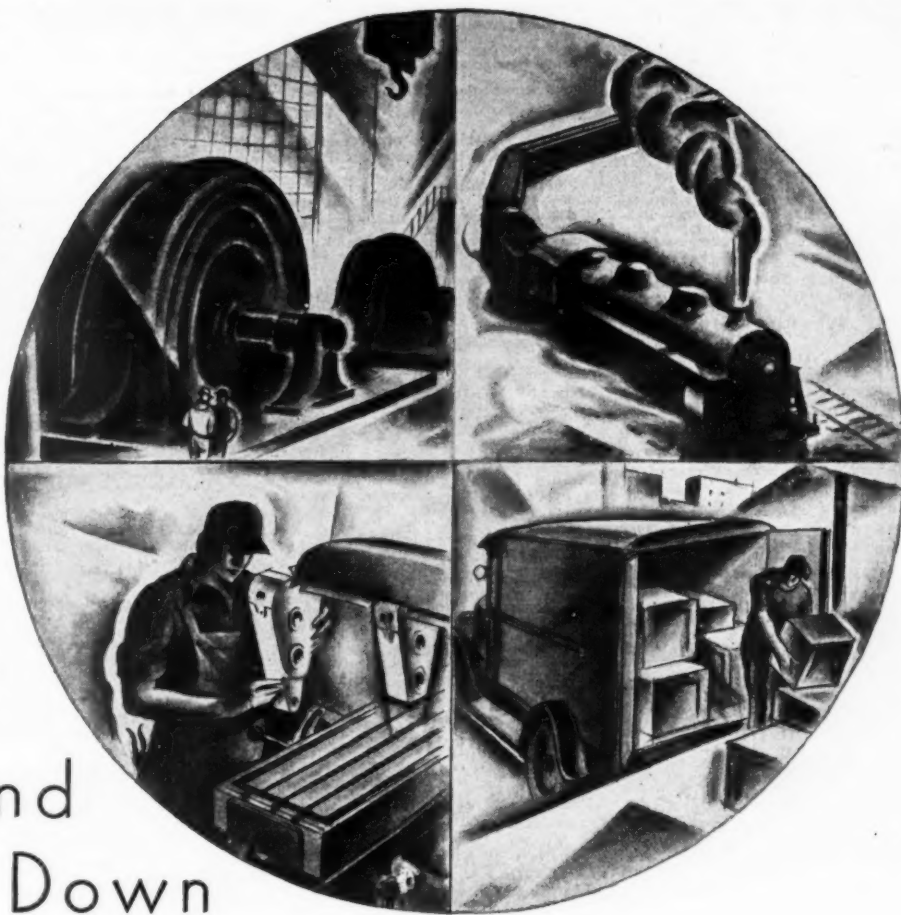
Hayward Co., The, New York, N. Y.

—(Ore Handling.)

Hayward Co., The, New York, N. Y.
Owen Bucket Co., The, Cleveland, Ohio.
Stuebner Iron Works, G. L., Long Island City, N. Y.



Trim Off Dead Weight and You Trim Down Sales Resistance



Industry is becoming more and more aware of the fact that excess dead weight runs up a staggering total of extra costs.

Light weight machines, provided they are equally strong, cost less to operate, both in man and mechanical power, than heavy machines. Light weight products can be handled cheaper, with greater ease and more speed. Express, freight, trucking, loading and unloading bills are lower.

A material that combines minimum weight with maximum strength is in demand for locomotives, for sewing machines, for diesel engines, for vacuum cleaners. The light, strong Alloys of Alcoa Aluminum meet this demand squarely—with the strength of "mild" steel and only $\frac{1}{3}$ the weight of old-fashioned metals.

Already hundreds of products have benefited by the use of Alcoa Aluminum Alloys. Sales resistance has been cut as products have been freed of many pounds of costly dead-weight. Very likely the light, strong Alloys of Alcoa Aluminum can be used in your products to great advantage.

3 New Text Books on Aluminum Metal Working **FREE**

One book tells you how to Rivet Aluminum. Another book deals with the Welding of Aluminum. The third book covers Aluminum Screw Machine Products.

If you wish one, or all three, of these books or any other information address your request to ALUMINUM COMPANY of AMERICA; 2428 Oliver Building, PITTSBURGH, PENNSYLVANIA.

ALCOA ALUMINUM



BUILDERS and Contractors.
Barstow & Co., W. S., Reading, Pa.
Cowper Co., Inc., John W., Richmond, Va.
Meyer Co., Tighman, Allentown, Pa.
Stone & Webster, Inc., Boston, Mass.
Thompson & Bros., T. C., Charlotte, N. C.
White Engineering Corp., J. G., New York.

BUILDINGS (Industrial.)
Belmont Iron Works, Philadelphia, Pa.
Blaw-Knox Co., Pittsburgh, Pa.
Braden Steel Corp., Tulsa, Okla.
Butler Mfg. Co., Kansas City, Mo.
Maryland Metal Building Co., Balto., Md.
McClintic-Marshall Co., Pittsburgh, Pa.
Nashville Bridge Co., Nashville, Tenn.
Truscon Steel Co., Youngstown, Ohio.
Virginia Bridge & Iron Co., Roanoke, Va.

—(Portable Sheet Metal.)
Braden Steel Corp., Tulsa, Okla.
Butler Mfg. Co., Kansas City, Mo.
Maryland Metal Building Co., Balto., Md.

BULKHEADS.
Shore-Line Builders, Inc., Jacksonville, Fla.
Snare Corp., Frederick, New York, N. Y.

BULLDOZERS.
Trackson Co., Milwaukee, Wis.

BUSHINGS (Brass and Bronze.)
Mecasin Bushing Co., Chattanooga, Tenn.

BUSINESS METHODS.
Ernst & Ernst, New York, N. Y.

CABINETS (Steel.)
Angle Steel Stool Co., Plainwell, Mich.

CABLES (Stud Link.)
Woodhouse Chain Works, Trenton, N. J.
—and Wire (Electric.)
American Steel & Wire Co., Balto., Md.
Okonite Co., New York, N. Y.
Roebling's Sons Co., John A., Trenton, N. J.
Western Electric Co., New York City.

CABLEWAYS (Overhead Suspension.)
Broderick & Bascom Rope Co., St. Louis.
Lidgerwood Mfg. Co., Elizabeth, N. J.
Sauerman Bros., Chicago, Ill.

CALCIUM CHLORIDE.
Grasselli Chemical Co., Inc., Birmingham, Ala.

CAN and Box-Making Machinery (Tin.)
Bliss Co., E. W., Brooklyn, N. Y.

CAR Loaders and Unloaders.
Barber-Greene Co., Aurora, Ill.
Stephens-Adamson Mfg. Co., Birmingham, Ala.
—Pullers.
Webster & Weller Mfg. Companies, Chicago, Ill.

CARS (Dump, Industrial, Logging and Mine.)
Atlas Car & Mfg. Co., The, Cleveland, O.
Easton Car & Construction Co., Easton, Pa.
Koppel Ind. Car & Equip. Co., Koppel, Pa.
Southern Iron & Equipment Co., Atlanta.
—Steps (Safety.)
Irving Iron Works Co., Long Island City, N. Y.

CASTERS (Truck.)
Service Caster & Truck Co., Albion, Mich.

CASTINGS (Brass, Bronze and Aluminum.)
Inter-State Fdry. & Mach. Wks., Johnson City, Tenn.
Mecasin Bushing Co., Chattanooga, Tenn.
—(Chilled Iron.)
Fuller Lehigh Co., Fullerton, Penna.
—(Gray Iron.)
Fuller Lehigh Co., Fullerton, Penna.
Glamorgan Pipe & Fdry. Co., Lynchburg, Va.
Inter-State Fdry. & Mach. Wks., Johnson City, Tenn.
National Cast Iron Pipe Co., Birmingham, Ala.
Reacone Iron & Bridge Works, Inc., Roanoke, Va.
Salem Fdry. & Mach. Wks., Salem, Va.
U. S. Pipe & Foundry Co., Burlington, N. J.

—(Malleable Iron and Steel.)
Timken Roller Bearing Co., Canton, O.
—(Semi-Steel.)
Salem Fdry. & Machine Works, Salem, Va.

—(Steel.)
Bethlehem Steel Co., Bethlehem, Pa.
Crucible Steel Casting Co., Lansdowne, Delaware Co., Pa.
Desmer Steel Casting Co., New Castle, Del.
Lunkenheimer Co., Cincinnati, Ohio.

CEMENT (High Temperature.)
Harbison Walker Refractories Co., Pittsburg.

—(Portland.)
Alpha Portland Cement Corp., Birmingham, Ala.
Lehigh Portland Cement Co., New York.
Louisville Cement Co., Louisville, Ky.
Portland Cement Assn., Chicago, Ill.

—Guns.
Cement-Gun Co., Inc., Allentown, Pa.

—Machinery.
Allis-Chalmers Mfg. Co., Milwaukee, Wis.

CHAIN BLOCKS (See Blocks, Chain.)

CHAINS (Dredge, Quarry, Steam Shovel.)
Knorrville Iron Co., Knoxville, Tenn.
Woodhouse Chain Works, Trenton, N. J.

—(High Speed Roller.)
Diamond Chain & Mfg. Co., Indianapolis.

—(Silent Drive.)
Diamond Chain & Mfg. Co., Indianapolis.
Morse Chain Co., Ithaca, N. Y.

—(Sprocket.)
Chain Belt Co., Milwaukee, Wis.
Diamond Chain & Mfg. Co., Indianapolis.
Morse Chain Co., Ithaca, N. Y.

—(Welded.)
Woodhouse Chain Works, Trenton, N. J.

CHAIRS (Opera and Theatre.)
Andrews Co., A. H., Chicago, Ill.

—and Stools (Steel.)
Angle Steel Stool Co., Plainwell, Mich.

CHEMICALS.
Grasselli Chemical Co., Inc., Birmingham, Ala.

CHEMICAL TOILETS.
Kaustine Co., Inc., Perry, N. Y.

CHEMISTS, CHEMICAL ENGINEERS (Analytical.)
Barrow-Agee Laboratories, Memphis, Tenn.
Flood & Co., Walter H., Chicago, Ill.
Froehling & Robertson, Inc., Richmond, Va.
Hunt Co., Robert W., Chicago, Ill.
Meigs, Bassett & Slaughter, Phila., Pa.
Pleard Laboratories, The, Birmingham, Ala.
Pittsburgh Testing Laboratories, Pittsburgh, Pa.
Southwestern Laboratories, Fort Worth, Texas.
Stillman & Van Sicken, New York.
Willey & Co., Inc., Baltimore, Md.
—(Consulting, Paper Industry.)
Froehling & Robertson, Inc., Richmond, Va.

CHIMNEYS (Concrete.)
Rust Engineering Co., Birmingham, Ala.

—(Radial Brick.)
Rust Engineering Co., Birmingham, Ala.

CHLORIDE ACCUMULATOR.
Electric Storage Battery Co., Phila., Pa.

CHLORINATORS.
Rees, S. P., Atlanta.

CIRCUIT BREAKERS.
I. T. E. Circuit Breaker Co., Phila., Pa.
Westinghouse Electric & Mfg. Co., E. Pittsburgh, Pa.

CITY AND TOWN PLANNING.
Draper, E. S., Charlotte, N. C.
Ludlow Engineers, Winston-Salem, N. C.

CLOCKS (For all purposes.)
Kaiser Klock Co., L. E., Baltimore, Md.
—(Watchman's Portable.)
Davis-Paradis Watchman's Clock Corp., New York, N. Y.
Kaiser Klock Co., L. E., Baltimore, Md.

CLUTCHES (Friction.)
Caldwell Co., Inc., W. E., Louisville, Ky.
Schultz & Son, A. L., Chicago, Ill.
Wood's Sons Co., T. B., Chambersburg, Pa.

COAL (Bituminous.)
Sloss-Sheffield Steel & Iron Co., Birmingham, Ala.
Tennessee Coal, Iron & Railroad Co., Birmingham, Ala.

—and Ash-Handling Mch'y.
Allen-Sherman-Hoff Co., Phila., Pa.
Chain Belt Co., Milwaukee, Wis.
Hayward Co., The, New York, N. Y.
Industrial Brownholt Corp., Cleveland, O.
Northwest Engineering Co., Chicago.
Stephens-Adamson Mfg. Co., Birmingham, Ala.
Webster & Weller Mfg. Companies, Chicago, Ill.

—Bunkers (Cast Iron.)
Allen-Sherman-Hoff Co., Phila., Pa.

—Tipples.
American Bridge Co., New York, N. Y.
Virginia Bridge & Iron Co., Roanoke, Va.

COCKS (Service.)
Marco Nordstrom Valve Co., San Francisco, Calif.

COKE.
Sloss-Sheffield Steel & Iron Co., Birmingham, Ala.
Tennessee Coal, Iron & Railroad Co., Birmingham, Ala.

COLUMNS (Cast Iron.)
U. S. Pipe & Foundry Co., Burlington, N. J.

COMPRESSORS.
Union Steam Pump Co., Battle Creek, Mich.

—(Gasoline Extraction.)
Sullivan Machinery Co., Chicago, Ill.

CONCRETE (Block Machinery.)
Blystone Mfg. Co., Cambridge Springs, Pa.

—Block Pallets.
Commercial Shearing & Stamping Co., Youngstown, Ohio.

—Construction (Reinforced.)
Cement-Gun Co., Inc., Allentown, Pa.
Cement Gun Construction Co., Chicago.
Rust Engineering Co., Birmingham, Ala.

—Floor Slabs.
American Cement Tile Mfg. Co., Pittsburgh, Pa.

—Information Only.
Portland Cement Assn., Chicago, Ill.

—Mixers.
Blystone Mfg. Co., Cambridge Springs, Pa.
Chain Belt Co., Milwaukee, Wis.
Dunning & Boschert Press Co., Inc., Syracuse, N. Y.
Jaeger Machine Co., Columbus, Ohio.
Lansing Co., Lansing, Mich.

—Pipe Machinery (See Pipe Machinery, Concrete.)

—Placing Equipment.
National Equipment Corp. (Insley Division), Milwaukee, Wis.

—Road Curing.
McEverlast, Inc., Los Angeles, Cal.

—Roofing Tile.
American Cement Tile Mfg. Co., Pittsburgh, Pa.

CONDENSERS.
Chicago Pneumatic Tool Co., New York.
Ingersoll-Rand Co., New York, N. Y.
Manitowoc Iron Works Co., Manitowish, Mich.
Union Steam Pump Co., Battle Creek, Mich.
Westinghouse Electric & Mfg. Co., E. Pittsburgh, Pa.

CONDUITS (Electric, Interior, Steel.)
Western Electric Co., New York City.
Youngstown Sheet & Tube Co., Youngstown, Ohio.

CONTRACTORS (Airports.)
Miller & Asso., Wendell F., Chicago.

—(Bridge.)
Kansas City Bridge Co., Kansas City, Mo.
Snare Corp., Frederick, New York.

—(Drainage and Dredging.)
Arundel Corp., The, Baltimore, Md.
Atlantic Gulf and Pacific Co., New York.

—(Electrical.)
Industrial Electrical Co., Savannah, Ga.
Walker Electrical Co., Atlanta, Ga.
Warner Service Co., Knoxville, Tenn.
Webb Electric Co., Anderson, S. C.

—(Foundations and Dams.)
Calligan & Co., A. H., Richmond, Va.
Snare Corp., Frederick, New York, N. Y.

—(General.)
Angle-Blackford Co., Greensboro, N. C.
Blair, Algernon, Montgomery, Ala.
Charleston Constructors, Inc., Charleston, S. C.
Cornell-Young Co., Inc., Macon, Ga.

Cowper Co., Inc., John W., Richmond, Va.
Flake-Carter Constr. Co., Greenville, S. C.
Gridley Constr. Co., Lee A., Knoxville, Tenn.
Saville, Inc., Allen J., Richmond, Va.
Snare Corp., Frederick, New York, N. Y.
Stone & Webster, Inc., Boston, Mass.
Thompson & Bros., T. C., Charlotte, N. C.
Tucker & Laxton, Charlotte, N. C.
White Engineering Corp., J. G., New York.

—(Industrial Buildings.)
Angle-Blackford Co., Greensboro, N. C.
Barstow & Co., W. S., Reading, Pa.
Cowper Co., Inc., John W., Richmond, Va.
Blair, Algernon, Montgomery, Ala.
Flake-Carter Constr. Co., Greenville, S. C.
Snare Corp., Frederick, New York, N. Y.
Stone & Webster, Inc., Boston, Mass.
Thompson & Bros., T. C., Charlotte, N. C.
Tucker & Laxton, Charlotte, N. C.
White Engineering Corp., J. G., New York.

—Mill Village.
Hornbuckle Contracting Co., Atlanta, Ga.

—(Plastering.)
Gomer & Co., F. L., Atlanta, Ga.
Jennings & Co., Floyd, Atlanta, Ga.

—(Power Piping.)
Poe Piping & Heating Co., Greenville, S. C.

—(Power Plants.)
Snare Corp., Frederick, New York, N. Y.

—(Railroad.)
Calligan & Co., A. H., Richmond, Va.
Cornell-Young Co., Inc., Macon, Ga.

—(Reinforced Concrete.)
Blair, Algernon, Montgomery, Ala.
Cement Gun Construction Co., Chicago.
Quinto Conc. & Constr. Co., Kansas City.
Tucker & Laxton, Charlotte, N. C.

—(Road and Street Paving.)
Flake-Carter Constr. Co., Greenville, S. C.
Gridley Constr. Co., Lee A., Knoxville, Tenn.
Hornbuckle Contracting Co., Atlanta, Ga.
McCrary Co., The J. B., Atlanta, Ga.

—(Rust Proofing.)
Dixie Electro Plating Co., Houston, Tex.

—(Sewerage and Waterworks.)
Gridley Constr. Co., Lee A., Knoxville, Tenn.

Hardaway Contracting Co., Columbus, Ga.
Hornbuckle Contracting Co., Atlanta, Ga.
McCrary Co., The J. B., Atlanta, Ga.
Snare Corp., Frederick, New York, N. Y.
Tucker & Laxton, Charlotte, N. C.

—(Sprinkler System.)
Poe Piping & Heating Co., Greenville, S. C.

—(Swimming Pool.)
Rees, S. P., Atlanta, Ga.

—(Water-Works.)
Pittsburgh-Des Moines Steel Co., Pittsburgh, Pa.

—Machinery and Supplies.
(New.)
Bay City Shovels, Inc., Bay City, Mich.
Weller & Co., Birmingham, Ala.
W-K-M Co., Inc., Houston, Texas.

—Machinery and Supplies.
(Used.)
Christian & Co., J. R., Houston, Tex.
Cohen, Chas. F., Lima, O.
Dempster Equip. Co., Knoxville, Tenn.
Elphinstone Inc., D. C., Baltimore, Md.
Equip. Sales & Rentals Co., Pittsburgh.
Guion, Harry P., New York, N. Y.
Johnson & Hoeber, Fernwood, Pa.
Marine Metal & Supply Co., New York.
Penn Machinery Co., H. O., New York.

CONVEYING and ELEVATING MACHINERY.

Barber-Greene Co., Aurora, Ill.
Chain Belt Co., Milwaukee, Wis.
McLanahan-Stone Machine Co., Hollidaysburg, Pa.
Stephens-Adamson Mfg. Co., Birmingham, Ala.
Universal Crusher Co., Cedar Rapids, Iowa.
Webster & Weller Mfg. Companies, Chicago, Ill.

CONVEYORS (Portable, Power-Driven.)
Clark Tractor Co., Battle Creek, Mich.

CORRESPONDENCE SCHOOLS.
International Correspondence Schools, Scranton, Pa.

COST SERVICE.
Le Baron, E. T., Jacksonville, Fla.

RIGHT-OF-WAY FOR ALL TRAFFIC AT BUSY INTERSECTIONS



Intersection of Routes 4 and 25, near Rahway, N. J.

HIGHWAY congestion, where heavily-traveled arteries cross, is entirely eliminated by providing two levels for traffic at the point of intersection. A system of curved roadways, as shown above in the illustration, enables traffic to proceed in any direction desired—even in an *opposite* direction—without impeding the steady flow of vehicles in any lane.

To permit maximum legal speed *with safety*, these grade separation areas should be of portland cement concrete. Its smooth but gritty surface provides sure-footed traction on the curves; and its inherent strength resists wear, assuring minimum annoyance and expense from maintenance.

PORTLAND CEMENT *Association*
Concrete for permanence

33 WEST GRAND AVENUE
CHICAGO

COTTON GIN MACHINERY.

Continental Gin Co., Birmingham, Ala.
 —Mill Machinery.
 Southern Spindle & Flyer Co., Inc., Charlotte, N. C.

COUNTING APPARATUS.

Vander-Root, Inc., Hartford, Conn.

COUPLINGS.

Geldens' Fdy. & Mach. Co., Columbus, Ga.
 —(Shaft.)
 Wood's Sons Co., T. B., Chambersburg, Pa.

CRANES.

Austin Machinery Corp., Muskegon, Mich.
 Buckeye Traction Ditcher Co., Findlay, O.
 National Equipment Co. (Inaley, Koehring, Parsons), Milwaukee, Wis.
 Northwest Engineering Co., Chicago, Ill.
 Ohio Power Shovel Co., Lima, Ohio.
 Thew Shovel Co., The, Lorain, Ohio.
 Whiting Corp., Harvey, Ill.
 —(Cantilever, Gantry.)
 Whiting Corp., Harvey, Ill.
 —(Crawler.)
 Buckeye Traction Ditcher Co., Findlay, O.
 Harnischfeger Corp., Milwaukee, Wis.
 Northwest Engineering Co., Chicago, Ill.
 Ohio Power Shovel Co., Lima, Ohio.
 Thew Shovel Co., The, Lorain, Ohio.

—(Crawling Tractor.)
 Northwest Engineering Co., Chicago, Ill.
 Ohio Power Shovel Co., Lima, Ohio.
 Thew Shovel Co., The, Lorain, Ohio.

—(Electric Traveling.)
 Harnischfeger Corp., Milwaukee, Wis.
 Milwaukee Elec. Crane & Hoist Corp., Milwaukee, Wis.
 Whiting Corp., Harvey, Ill.

—(Full Circle Steam and Electric.)
 Austin Machinery Corp., Muskegon, Mich.
 Northwest Engineering Co., Chicago, Ill.
 Ohio Power Shovel Co., Lima, Ohio.
 Thew Shovel Co., The, Lorain, Ohio.

—(Gasoline.)
 Buckeye Traction Ditcher Co., Findlay, O.
 Harnischfeger Corp., Milwaukee, Wis.
 Industrial Brownhoist Corp., Cleveland, O.
 Northwest Engineering Co., Chicago, Ill.
 Ohio Power Shovel Co., Lima, Ohio.
 Thew Shovel Co., The, Lorain, Ohio.

—(Material Handling.)
 Bay City Shovels, Inc., Bay City, Mich.
 Industrial Brownhoist Corp., Cleveland, O.
 Northwest Engineering Co., Chicago, Ill.
 Ohio Power Shovel Co., Lima, Ohio.
 Thew Shovel Co., The, Lorain, Ohio.
 Universal Crane Co., Lorain, Ohio.

—(Traveling, Hand Power.)
 Harrington Co., The, Philadelphia, Pa.

—(Jib.)
 Whiting Corp., Harvey, Ill.

—(Locomotive.)
 Bucyrus-Erie Co., Erie, Penna.
 Industrial Brownhoist Corp., Cleveland, O.
 Northwest Engineering Co., Chicago, Ill.
 Ohio Power Shovel Co., Lima, Ohio.
 Thew Shovel Co., The, Lorain, Ohio.

—(Material Handling.)
 Bay City Shovels, Inc., Bay City, Mich.
 Industrial Brownhoist Corp., Cleveland, O.
 Northwest Engineering Co., Chicago, Ill.
 Ohio Power Shovel Co., Lima, Ohio.
 Thew Shovel Co., The, Lorain, Ohio.
 Universal Crane Co., Lorain, Ohio.

—(Traveling, Hand Power.)
 Harrington Co., The, Philadelphia, Pa.

—(Jib.)
 Whiting Corp., Harvey, Ill.

—(Locomotive.)
 Bucyrus-Erie Co., Erie, Penna.
 Industrial Brownhoist Corp., Cleveland, O.
 Northwest Engineering Co., Chicago, Ill.
 Ohio Power Shovel Co., Lima, Ohio.
 Thew Shovel Co., The, Lorain, Ohio.

—(Material Handling.)
 Bay City Shovels, Inc., Bay City, Mich.
 Industrial Brownhoist Corp., Cleveland, O.
 Northwest Engineering Co., Chicago, Ill.
 Ohio Power Shovel Co., Lima, Ohio.
 Thew Shovel Co., The, Lorain, Ohio.
 Universal Crane Co., Lorain, Ohio.

—(Traveling, Hand Power.)
 Harrington Co., The, Philadelphia, Pa.

—(Jib.)
 Whiting Corp., Harvey, Ill.

—(Locomotive.)
 Bucyrus-Erie Co., Erie, Penna.
 Industrial Brownhoist Corp., Cleveland, O.
 Northwest Engineering Co., Chicago, Ill.
 Ohio Power Shovel Co., Lima, Ohio.
 Thew Shovel Co., The, Lorain, Ohio.

—(Material Handling.)
 Bay City Shovels, Inc., Bay City, Mich.
 Industrial Brownhoist Corp., Cleveland, O.
 Northwest Engineering Co., Chicago, Ill.
 Ohio Power Shovel Co., Lima, Ohio.
 Thew Shovel Co., The, Lorain, Ohio.
 Universal Crane Co., Lorain, Ohio.

—(Traveling, Hand Power.)
 Harrington Co., The, Philadelphia, Pa.

—(Jib.)
 Whiting Corp., Harvey, Ill.

—(Locomotive.)
 Bucyrus-Erie Co., Erie, Penna.
 Industrial Brownhoist Corp., Cleveland, O.
 Northwest Engineering Co., Chicago, Ill.
 Ohio Power Shovel Co., Lima, Ohio.
 Thew Shovel Co., The, Lorain, Ohio.

—(Material Handling.)
 Bay City Shovels, Inc., Bay City, Mich.
 Industrial Brownhoist Corp., Cleveland, O.
 Northwest Engineering Co., Chicago, Ill.
 Ohio Power Shovel Co., Lima, Ohio.
 Thew Shovel Co., The, Lorain, Ohio.
 Universal Crane Co., Lorain, Ohio.

—(Traveling, Hand Power.)
 Harrington Co., The, Philadelphia, Pa.

—(Jib.)
 Whiting Corp., Harvey, Ill.

—(Locomotive.)
 Bucyrus-Erie Co., Erie, Penna.
 Industrial Brownhoist Corp., Cleveland, O.
 Northwest Engineering Co., Chicago, Ill.
 Ohio Power Shovel Co., Lima, Ohio.
 Thew Shovel Co., The, Lorain, Ohio.

—(Material Handling.)
 Bay City Shovels, Inc., Bay City, Mich.
 Industrial Brownhoist Corp., Cleveland, O.
 Northwest Engineering Co., Chicago, Ill.
 Ohio Power Shovel Co., Lima, Ohio.
 Thew Shovel Co., The, Lorain, Ohio.
 Universal Crane Co., Lorain, Ohio.

—(Traveling, Hand Power.)
 Harrington Co., The, Philadelphia, Pa.

—(Jib.)
 Whiting Corp., Harvey, Ill.

—(Locomotive.)
 Bucyrus-Erie Co., Erie, Penna.
 Industrial Brownhoist Corp., Cleveland, O.
 Northwest Engineering Co., Chicago, Ill.
 Ohio Power Shovel Co., Lima, Ohio.
 Thew Shovel Co., The, Lorain, Ohio.

—(Material Handling.)
 Bay City Shovels, Inc., Bay City, Mich.
 Industrial Brownhoist Corp., Cleveland, O.
 Northwest Engineering Co., Chicago, Ill.
 Ohio Power Shovel Co., Lima, Ohio.
 Thew Shovel Co., The, Lorain, Ohio.
 Universal Crane Co., Lorain, Ohio.

—(Traveling, Hand Power.)
 Harrington Co., The, Philadelphia, Pa.

—(Jib.)
 Whiting Corp., Harvey, Ill.

—(Locomotive.)
 Bucyrus-Erie Co., Erie, Penna.
 Industrial Brownhoist Corp., Cleveland, O.
 Northwest Engineering Co., Chicago, Ill.
 Ohio Power Shovel Co., Lima, Ohio.
 Thew Shovel Co., The, Lorain, Ohio.

—(Material Handling.)
 Bay City Shovels, Inc., Bay City, Mich.
 Industrial Brownhoist Corp., Cleveland, O.
 Northwest Engineering Co., Chicago, Ill.
 Ohio Power Shovel Co., Lima, Ohio.
 Thew Shovel Co., The, Lorain, Ohio.
 Universal Crane Co., Lorain, Ohio.

—(Traveling, Hand Power.)
 Harrington Co., The, Philadelphia, Pa.

—(Jib.)
 Whiting Corp., Harvey, Ill.

—(Locomotive.)
 Bucyrus-Erie Co., Erie, Penna.
 Industrial Brownhoist Corp., Cleveland, O.
 Northwest Engineering Co., Chicago, Ill.
 Ohio Power Shovel Co., Lima, Ohio.
 Thew Shovel Co., The, Lorain, Ohio.

—(Material Handling.)
 Bay City Shovels, Inc., Bay City, Mich.
 Industrial Brownhoist Corp., Cleveland, O.
 Northwest Engineering Co., Chicago, Ill.
 Ohio Power Shovel Co., Lima, Ohio.
 Thew Shovel Co., The, Lorain, Ohio.
 Universal Crane Co., Lorain, Ohio.

—(Traveling, Hand Power.)
 Harrington Co., The, Philadelphia, Pa.

—(Jib.)
 Whiting Corp., Harvey, Ill.

—(Locomotive.)
 Bucyrus-Erie Co., Erie, Penna.
 Industrial Brownhoist Corp., Cleveland, O.
 Northwest Engineering Co., Chicago, Ill.
 Ohio Power Shovel Co., Lima, Ohio.
 Thew Shovel Co., The, Lorain, Ohio.

—(Material Handling.)
 Bay City Shovels, Inc., Bay City, Mich.
 Industrial Brownhoist Corp., Cleveland, O.
 Northwest Engineering Co., Chicago, Ill.
 Ohio Power Shovel Co., Lima, Ohio.
 Thew Shovel Co., The, Lorain, Ohio.
 Universal Crane Co., Lorain, Ohio.

—(Traveling, Hand Power.)
 Harrington Co., The, Philadelphia, Pa.

—(Jib.)
 Whiting Corp., Harvey, Ill.

—(Locomotive.)
 Bucyrus-Erie Co., Erie, Penna.
 Industrial Brownhoist Corp., Cleveland, O.
 Northwest Engineering Co., Chicago, Ill.
 Ohio Power Shovel Co., Lima, Ohio.
 Thew Shovel Co., The, Lorain, Ohio.

—(Material Handling.)
 Bay City Shovels, Inc., Bay City, Mich.
 Industrial Brownhoist Corp., Cleveland, O.
 Northwest Engineering Co., Chicago, Ill.
 Ohio Power Shovel Co., Lima, Ohio.
 Thew Shovel Co., The, Lorain, Ohio.
 Universal Crane Co., Lorain, Ohio.

—(Traveling, Hand Power.)
 Harrington Co., The, Philadelphia, Pa.

—(Jib.)
 Whiting Corp., Harvey, Ill.

—(Locomotive.)
 Bucyrus-Erie Co., Erie, Penna.
 Industrial Brownhoist Corp., Cleveland, O.
 Northwest Engineering Co., Chicago, Ill.
 Ohio Power Shovel Co., Lima, Ohio.
 Thew Shovel Co., The, Lorain, Ohio.

—(Material Handling.)
 Bay City Shovels, Inc., Bay City, Mich.
 Industrial Brownhoist Corp., Cleveland, O.
 Northwest Engineering Co., Chicago, Ill.
 Ohio Power Shovel Co., Lima, Ohio.
 Thew Shovel Co., The, Lorain, Ohio.
 Universal Crane Co., Lorain, Ohio.

—(Traveling, Hand Power.)
 Harrington Co., The, Philadelphia, Pa.

—(Jib.)
 Whiting Corp., Harvey, Ill.

—(Locomotive.)
 Bucyrus-Erie Co., Erie, Penna.
 Industrial Brownhoist Corp., Cleveland, O.
 Northwest Engineering Co., Chicago, Ill.
 Ohio Power Shovel Co., Lima, Ohio.
 Thew Shovel Co., The, Lorain, Ohio.

—(Material Handling.)
 Bay City Shovels, Inc., Bay City, Mich.
 Industrial Brownhoist Corp., Cleveland, O.
 Northwest Engineering Co., Chicago, Ill.
 Ohio Power Shovel Co., Lima, Ohio.
 Thew Shovel Co., The, Lorain, Ohio.
 Universal Crane Co., Lorain, Ohio.

—(Traveling, Hand Power.)
 Harrington Co., The, Philadelphia, Pa.

—(Jib.)
 Whiting Corp., Harvey, Ill.

—(Locomotive.)
 Bucyrus-Erie Co., Erie, Penna.
 Industrial Brownhoist Corp., Cleveland, O.
 Northwest Engineering Co., Chicago, Ill.
 Ohio Power Shovel Co., Lima, Ohio.
 Thew Shovel Co., The, Lorain, Ohio.

—(Material Handling.)
 Bay City Shovels, Inc., Bay City, Mich.
 Industrial Brownhoist Corp., Cleveland, O.
 Northwest Engineering Co., Chicago, Ill.
 Ohio Power Shovel Co., Lima, Ohio.
 Thew Shovel Co., The, Lorain, Ohio.
 Universal Crane Co., Lorain, Ohio.

—(Traveling, Hand Power.)
 Harrington Co., The, Philadelphia, Pa.

—(Jib.)
 Whiting Corp., Harvey, Ill.

—(Locomotive.)
 Bucyrus-Erie Co., Erie, Penna.
 Industrial Brownhoist Corp., Cleveland, O.
 Northwest Engineering Co., Chicago, Ill.
 Ohio Power Shovel Co., Lima, Ohio.
 Thew Shovel Co., The, Lorain, Ohio.

—(Material Handling.)
 Bay City Shovels, Inc., Bay City, Mich.
 Industrial Brownhoist Corp., Cleveland, O.
 Northwest Engineering Co., Chicago, Ill.
 Ohio Power Shovel Co., Lima, Ohio.
 Thew Shovel Co., The, Lorain, Ohio.
 Universal Crane Co., Lorain, Ohio.

—(Traveling, Hand Power.)
 Harrington Co., The, Philadelphia, Pa.

—(Jib.)
 Whiting Corp., Harvey, Ill.

—(Zinc Meta Arsenite Treated.)
 Curtin-Howe Corp., New York, N. Y.

CRUSHED STONE (Road Concrete and Ballast.)

American Limestone Co., Knoxville, Tenn.
 Boxley & Co., W. W., Roanoke, Va.

CRUSHERS (Coal and Coke.)

Fuller Lehigh Co., Fullerton, Pa.
 —Rock.
 Universal Crusher Co., Cedar Rapids, Iowa.

CRUSHING and Pulverizing Machinery.

Allis-Chalmers Mfg. Co., Milwaukee, Wis.
 Day Pulverizer Co., Knoxville, Tenn.
 Fuller Lehigh Co., Fullerton, Pa.
 McLanahan-Stone Machine Co., Hollidaysburg, Pa.
 Raymond Bros. Impact Pulverizer Co., Chicago, Ill.
 Universal Crusher Co., Cedar Rapids, Iowa.
 W-K-M Co., Inc., Houston, Texas.

CULVERT PIPE (Cast Iron.)

Amer. Cast Iron Pipe Co., Birmingham.
 Cast Iron Pipe Research Assn., Chicago.
 U. S. Pipe & Foundry Co., Burlington, N. J.

—(Corrugated Metal.)

American Sheet & Tin Plate Co., Pittsburgh, Pa.
 Armco Culvert Mfrs. Assn., Middletown, O.
 Dixie Culvert & Metal Co., Atlanta, Ga.
 Dixie Culvert Mfg. Co., Little Rock, Ark.
 Louisiana Corr. Culvert Co., Baton Rouge, La.
 Tenn. Metal Culvert Co., Nashville, Tenn.
 Western Metal Mfg. Co., Houston, Texas.

CURB PROTECTORS (Steel Bars.)

Truscon Steel Co., Youngstown, O.

CUTTERS (Wire Rope.)

Leschen & Sons Rope Co., A., St. Louis.

CYLINDERS (Compressed Air, Gas.)

Janney, Jr., Jos. A., Phila., Pa.
 National Tube Co., Pittsburgh, Pa.

DERICKS and Derrick Fittings.

Clyde Iron Works Sales Co., Duluth, Minn.
 Lidgerwood Mfg. Co., Elizabeth, N. J.
 Sagen Derrick Co., Chicago, Ill.

DESKS (School.)

Andrews Co., A. H., Chicago, Ill.

—(Steel Factory.)

Angie Steel Stool Co., Plainwell, Mich.

DITCHING MACHINERY.

Barber-Greene Co., Aurora, Ill.
 Bay City Shovels, Inc., Bay City, Mich.
 Buckeye Traction Ditcher Co., Findlay, O.
 Harnischfeger Corp., Milwaukee, Wis.
 Hayward Co., The, New York, N. Y.
 Industrial Brownhoist Corp., Cleveland, Ohio.
 Northwest Engineering Co., Chicago, Ill.
 Ohio Power Shovel Co., Lima, Ohio.
 Owen Bucket Co., The, Cleveland, O.

DOORS (Bronze.)

Michaels Art Bronze Co., Covington, Ky.

—(Fire.)

Merchant & Evans Co., Philadelphia, Pa.
 Richards-Wilcox Mfg. Co., Aurora, Ill.

—(Fireproof, Air Chamber.)

Wilson Corp., The J. G., New York.

—(Freight Elevator.)

Peelle Co., The, Brooklyn, N. Y.

—(Kalamazoo.)

Moeschl-Edwards Corr. Co., Cincinnati.

—(Rolling, Steel and Wood.)

Kinnear Mfg. Co., The, Columbus, Ohio.
 Mahon Co., R. C., Detroit, Mich.
 Moeschl-Edwards Corr. Co., Cincinnati.
 Peelle Co., The, Brooklyn, N. Y.
 Wilson Corp., The J. G., New York.

—(Steel.)

Detroit Steel Products Co., Detroit, Mich.
 Truscon Steel Co., Youngstown, O.

—(Tubular Steel.)

Bayley Co., Wm., Springfield, O.

DRAFTSMEN'S SUPPLIES.

Weber Co., Inc., F., Philadelphia, Pa.

DRAGLINE EXCAVATORS.

Austin Machinery Corp., Muskegon, Mich.
 Bucyrus-Erie Co., Erie, Penna.
 Harnischfeger Corp., Milwaukee, Wis.
 Monaghan Mfg. Corp., Chicago, Ill.
 National Equipment Corp. (Keckring, Inaley), Milwaukee, Wis.
 Northwest Engineering Co., Chicago, Ill.

Ohio Power Shovel Co., Lima, Ohio.
 Sausman Bros., Chicago, Ill.
 Thew Shovel Co., The, Lorain, Ohio.
 Universal Power Shovel Co., Milwaukee, Wis.

DREDGES (Dipper, Elevator, Hydraulic.)

Bay City Shovels, Inc., Bay City, Mich.
 Bucyrus-Erie Co., Erie, Pa.
 Elliott Machine Corp., Baltimore, Md.
 Morris Machine Wks., Baldwinville, N. Y.

DREDGING (River and Harbor Improvement.)

Arundel Corp., The, Baltimore, Md.
 Atlantic Gulf and Pacific Co., New York.

—Machinery.

American Steel Dredge Co., Fort Wayne, Ind.
 Elliott Machine Corp., Baltimore, Md.
 Hayward Co., The, New York.

DRILLING CONTRACTORS.

Mott Core Drilling Co., Huntington, W. Va.
 Pennsylvania Drilling Co., Pittsburgh, Pa.
 Southern Drilling Co., Slatville, Va.
 Sprague & Hemwood, Inc., Scranton, Pa.

DRILLS (Artesian Well.)

Virginia Machinery & Well Co., Inc., Richmond, Va.

—(Electric.)

Chicago Pneumatic Tool Co., New York.
 Sullivan Mch. Co., Chicago.

—(Pneumatic.)

Chicago Pneumatic Tool Co., New York.
 Ingersoll-Rand Co., New York, N. Y.
 Sullivan Machinery Co., Chicago, Ill.

DRINKING FOUNTAINS.

Rundle-Spence Mfg. Co., Milwaukee, Wis.
 Taylor Co., Halsey W., Warren, Ohio.

DROP-FORGING MACHINERY.

Bliss Co., E. W., Brooklyn, N. Y.

DRYERS (Gravel and Sand.)

Ripley Fdy. & Mch. Co., Ripley, Ohio.

DRY KILNS and Equipment.

Moore Dry Kiln Co., Jacksonville, Fla.

DRYING MACHINERY.

American Process Co., New York, N. Y.

DUMP TRUCK BODIES and HOISTS.

Commercial Shearing & Stamping Co., Youngstown, Ohio.
 Easton Car & Construction Co., Easton, Pa.
 Lee Trailer & Body Co., Inc., Plymouth, Ind.

DUSTPROOFING (Concrete.)

Sonnenborn Sons, Inc., L., New York.

DYESTUFFS.

Du Pont de Nemours & Co., Inc., E. I., Wilmington, Del.

DYNAMITE (Industrial and Agricultural.)

Du Pont de Nemours & Co., Inc., E. I., Wilmington, Del.

Hercules Powder Co., Inc., Wilmington, Del.

ELECTRICAL Instruments and Supplies.

Adams Electric Co., Frank, St. Louis.
 General Electric Co., Schenectady, N. Y.
 Western Electric Co., New York City.

—Machinery (Generators, Motors, etc., New.)

Allis-Chalmers Mfg. Co., Milwaukee, Wis.
 Elliott, Howard C., Miami, Fla.
 Fairbanks, Morse & Co., Chicago, Ill.
 General Electric Co., Schenectady, N. Y.
 Howell Electric Motors Co., Howell, Mich.
 Rockford Power Machy. Co., Rockford, Ill.
 Westinghouse Electric & Mfg. Co., E. Pittsburgh, Pa.

—Machinery (Generators, Motors, etc., Used.)

Belyea Co., Inc., New York City.
 Delta Equipment Co., Philadelphia, Pa.
 Electric Service Co., Cincinnati, Ohio.
 Electrical Equip. Co., Raleigh, N. C.
 General Electric Co., Schenectady, N. Y.
 Gregory Electric Co., Chicago.
 Nashville Industrial Corp., Old Hickory, Tenn.

—Machinery (Generators, Motors, etc., Repaired.)

Nussbaum & Co., V. M., Ft. Wayne, Ind.
 O'Brien Machinery Co., The, Phila., Pa.
 Randle Machinery Co., The, Cincinnati, O.
 Rockford Power Machy. Co., Rockford, Ill.
 Stewart Elec. Co., John A., Cincinnati.

—Machinery Repairing (Motors, Generators, etc.)

Electric Service Co., Cincinnati, Ohio.
 Gregory Electric Co., Chicago.

ELECTRIC LIGHTING.

General Electric Vapor Lamp Co., Hoboken, N. J.

ELECTRIC SHOVELS (See Shovels.)**ELEVATOR Cables.**

Leschen & Sons Rope Co., A., St. Louis.

—Enclosures.

Dufur, Baggett & Co., Baltimore, Md.

—(Equalizers.)

Evans Elevator Equalizer Co., Bedford, Ind.

ELEVATORS (Electric.)

American Elevator & Machine Co., Inc., Louisville, Ky.
 Millner Co., St. Louis, Mo.

—(Hand and Belt Power.)

American Elevator & Machine Co., Inc., Louisville, Ky.
 Millner Co., St. Louis, Mo.

—(Hydraulic.)

American Elevator & Machine Co., Inc., Louisville, Ky.

—(Portable.)

O

MAHON

ROLLING STEEL DOORS

THESE high quality doors, approved by the Underwriters' Laboratories Inc., are designed to provide the maximum in protection and service without maintenance. They are manufactured in many labeled and non-labeled types to meet perfectly every requirement of industrial or commercial use. Your inspection of Mahon Rolling Steel Doors will reveal many practical, thoroughly engineered improvements in doors of this type. Write today for estimates and our catalog containing complete information and architectural data.

THE R. C. MAHON CO.
Detroit, Mich.

Representatives in All Principal Cities

MAHON
STEEL DOORS

Superiority



If Kinnear Rolling Doors are a superior product, and it is generally conceded by those who specify, install and use equipment of this type that they are—it is simply a reflection of the ideals of their maker. Kinnear has the courage, the financial resources, and the engineering ability to maintain the standards instituted 35 years ago when the idea of a rolling steel door first was conceived. Kinnear Doors cost a trifle more, but the years always prove their worth.



The new Kinnear Rolling Door Catalog is mailed free on request. Kinnear Engineering and Estimating Service is available without charge or obligation.

kinnear
ROLLING DOORS

THE KINNEAR MANUFACTURING CO.

823-873 Field Avenue, Columbus, Ohio, U. S. A.

Boston Chicago Cincinnati Cleveland Detroit New Orleans
New York Philadelphia Pittsburgh Kansas City Washington

—(Dams.)

Alpaugh & Sons, Chas. W., Manassas, Va.
 Battey & Kipp, Inc., Chicago, Ill.
 Byllesby Engineering and Management Corp., Chicago, Ill.
 Cooper & Co., Hugh L., New York, N. Y.
 Floyd & Lechridge, Dallas, Texas.
 Gardner & Howe, Memphis, Tenn.
 Hardaway Contracting Co., Columbus, Ga.
 Harza Engineering Co., Chicago.
 Hedrick Inc., Ira G., Hot Springs Nat'l Park, Ark.
 Lee, William S., Charlotte, N. C.
 Main, Inc., Chas. T., Boston, Mass.
 Sirmine & Co., J. E., Greenville, S. C.
 Tucker & Laxton, Charlotte, N. C.
 Wheeler, Walter H., Minneapolis, Minn.
 White Engr. Corp., J. G., New York.

—(Drainage and Irrigation.)

Floyd & Lechridge, Dallas, Texas.
 Ford, Bacon & Davis, Inc., New York.
 Fuller & McClintock, New York, N. Y.
 Hills Co., George B., Jacksonville, Fla.
 Ludlow Engineers, Winston-Salem, N. C.

—(Efficiency.)

Barstow & Co., W. S., Reading, Pa.
 Ernst & Ernst, New York, N. Y.

—(Electrical.)

Battey & Kipp, Inc., Chicago, Ill.
 Cooper & Co., Hugh L., New York, N. Y.
 Engineering Service Corp., Houston, Texas.
 Hoosier Engineering Co., Chicago, Ill.
 Lee, William S., Charlotte, N. C.
 Lockwood Greene Engrs., Inc., New York City.
 Main, Inc., Chas. T., Boston, Mass.
 Mullerengren, Arthur L., Kansas City, Mo.
 Sanderson & Porter, New York, N. Y.
 Stone & Webster, Inc., Boston, Mass.
 Tucker & Laxton, Charlotte, N. C.
 Webb Electric Co., Anderson, S. C.
 White Co., Gilbert C., Durham, N. C.
 Wiley & Wilson, Lynchburg, Va.

—(Electric-Light and Power Plants.)

Barrows, H. K., Boston, Mass.
 Battey & Kipp, Inc., Chicago, Ill.
 Biggs Eng. Co., W. E., Knoxville, Tenn.
 Byllesby Engineering and Management Corp., Chicago, Ill.
 Cooper & Co., Hugh L., New York, N. Y.
 Ford, Bacon & Davis, Inc., New York.
 Lee, William S., Charlotte, N. C.
 Main, Inc., Chas. T., Boston, Mass.
 Mullerengren, Arthur L., Kansas City, Mo.
 Sanderson & Porter, New York, N. Y.
 Scottfield Engineering Co., Phila., Pa.
 Stone & Webster, Inc., Boston, Mass.
 Tucker & Laxton, Charlotte, N. C.
 White Engineering Corp., J. G., New York.
 White Co., Gilbert C., Durham, N. C.

—(Flood Control.)

Floyd & Lechridge, Dallas, Texas.
 Harza Engineering Co., Chicago.

—(Forest.)

Lacey & Co., Jas. D., New York, N. Y.

—(Gas.)

Byllesby Engineering and Management Corp., Chicago, Ill.
 Ford, Bacon & Davis, Inc., New York.
 Harrison, William Henry, Washington, D. C.

—(Geological.)

De Kalb, Courtenay, New York City.
 Froehling & Robertson, Richmond, Va.
 Harrison, William Henry, Washington, D. C.

—(Harbor Improvements.)

Billingsley, James W., New Orleans, La.
 Engineering Service Corp., Houston, Texas.
 Fay, Spofford & Thorndike, Boston, Mass.

—(Heating.)

Battey & Kipp, Inc., Chicago, Ill.
 Biggs Eng. Co., W. E., Knoxville, Tenn.
 Wiley & Wilson, Lynchburg, Va.

—(Hydraulic.)

Alpaugh & Sons, Chas. W., Manassas, Va.
 Barrows, H. K., Boston, Mass.
 Floyd & Lechridge, Dallas, Texas.
 Fuller & McClintock, New York, N. Y.
 Harza Engineering Co., Chicago.
 Main, Inc., Chas. T., Boston, Mass.

—(Hydro-electric.)

Alpaugh & Sons, Chas. W., Manassas, Va.
 Barrows, H. K., Boston, Mass.
 Battey & Kipp, Inc., Chicago, Ill.
 Byllesby Engineering and Management Corp., Chicago, Ill.
 Cooper & Co., Hugh L., New York, N. Y.
 Harza Engineering Co., Chicago.
 Lee, William S., Charlotte, N. C.
 Ludlow Engineers, Winston-Salem, N. C.
 Main, Inc., Chas. T., Boston, Mass.
 Meigs & Meigs, Charlotte, N. C.
 Platt, William M., Durham, N. C.
 Sanderson & Porter, New York, N. Y.
 Scottfield Engineering Co., Phila., Pa.
 Sirmine & Co., J. E., Greenville, S. C.
 Tucker & Laxton, Charlotte, N. C.
 White Engineering Corp., J. G., New York.

—(Ice and Refrigerating.)

Engineering Service Corp., Houston, Texas.

—(Industrial Plants.)

Barstow & Co., W. S., Reading, Pa.
 Battey & Kipp, Inc., Chicago, Ill.
 Biggs Eng. Co., W. E., Knoxville, Tenn.
 Billingsley, James W., New Orleans, La.
 Charleston Constructors, Inc., Charleston, S. C.
 Consoer, Older & Quinlan, Inc., Chicago.
 Converse & Co., J. B., Mobile, Ala.
 Fay, Spofford & Thorndike, Boston, Mass.
 Gardner & Howe, Memphis, Tenn.

Greiner & Co., J. E., Baltimore, Md.
 Herty, Charles H., New York City.
 Hills Co., George B., Jacksonville, Fla.
 Lockwood Greene Engrs., Inc., New York City.

MacElwae & Crandall, Inc., Cambridge, Mass.
 Main, Inc., Chas. T., Boston, Mass.
 Mees & Mees, Charlotte, N. C.
 Morgan Constr. Co., Worcester, Mass.
 Mullerengren, Arthur L., Kansas City, Mo.
 Ophuls & Hill, Inc., New York, N. Y.
 Prescher & Co., Inc., G. Lloyd, Atlanta.
 Sanderson & Porter, New York, N. Y.
 Scottfield Engineering Co., Phila., Pa.
 Simmons, Inc. & Associates, B. Stanley, Washington, D. C.
 Sirmine & Co., J. E., Greenville, S. C.
 Smith, Elroy G., Augusta, Ga.
 Stone & Webster, Inc., Boston, Mass.
 Turner, C. A. P., Minneapolis, Minn.
 Widmer Engineering Co., St. Louis, Mo.
 Williamson, Lee H., Charlottesville, Va.

—(Industrial Survey.)

Converse & Co., J. B., Mobile, Ala.
 Herty, Charles H., New York City.
 Lockwood Greene Engrs., Inc., New York City.
 Wadleigh & Bailey, Washington, D. C.

—(Inspection and Tests.)

Barrow-Agee Laboratories, Memphis, Tenn.
 Conard & Busby, Burlington, N. J.
 Dow & Smith, New York, N. Y.
 Flood & Co., Walter H., Chicago, Ill.
 Froehling & Robertson, Inc., Richmond, Va.
 Hunt Co., Robert W., Chicago, Ill.
 Picard Laboratories, Birmingham, Ala.
 Pittsburgh Testing Laboratories, Pittsburgh, Pa.
 Southwestern Laboratories, Ft. Worth, Texas.

—(Landscapes.)

Draper, E. S., Charlotte, N. C.
 Kirby & Co., Raleigh, N. C.
 McCrady Co., John, Charleston, S. C.

—(Lighting.)

Battey & Kipp, Inc., Chicago, Ill.
 Byllesby Engineering and Management Corp., Chicago, Ill.
 Ford, Bacon & Davis, Inc., New York.
 General Electric Vapor Lamp Co., Hoboken, N. J.
 Wiley & Wilson, Lynchburg, Va.

—(Mechanical.)

Battey & Kipp, Inc., Chicago, Ill.
 Charlton & Davis, Ft. Lauderdale, Fla.
 Engineering Service Corp., Houston, Texas.
 Invicta Engineering Co., Birmingham, Ala.
 Lee, William S., Charlotte, N. C.
 Lockwood Greene Engrs., Inc., New York City.
 Main, Inc., Chas. T., Boston, Mass.
 Mees & Mees, Charlotte, N. C.
 Meigs, Bassett & Slaughter, Phila., Pa.
 Sanderson & Porter, New York, N. Y.
 Wiley & Wilson, Lynchburg, Va.

—(Metal Protection.)

Dixie Electro Plating Co., Houston, Tex.

—(Mining. See Engineers, Geological.)

—(Municipal.)

Billingsley, James W., New Orleans, La.
 Consoer, Older & Quinlan, Inc., Chicago.
 Dow & Smith, New York, N. Y.
 Harrib Engr. Co., C. N., Nashville, Tenn.
 Hills Co., George B., Jacksonville, Fla.
 Howerton Engineering Co., Asheville, N. C.
 Knowles, Inc., Morris, Pittsburg, Pa.
 Ludlow Engineers, Winston-Salem, N. C.
 McCrady Co., The J. B., Atlanta, Ga.
 Spoon & Lewis, Greensboro, N. C.
 White Co., Gilbert C., Durham, N. C.

—(Paving and Roads.)

Billingsley, James W., New Orleans, La.
 Dow & Smith, New York, N. Y.
 Freeland, Roberts & Co., Nashville, Tenn.
 Harrib Engr. Co., C. N., Nashville, Tenn.
 Howerton Engineering Co., Asheville, N. C.
 Ludlow Engineers, Winston-Salem, N. C.
 Platt, William M., Durham, N. C.
 Spoon & Lewis, Greensboro, N. C.
 White Co., Gilbert C., Durham, N. C.

—(Production.)

Scottfield Engr. Co., Phila., Pa.

—(Public Service Properties.)

Byllesby Engineering and Management Corp., Chicago, Ill.
 Cooper & Co., Hugh L., New York, N. Y.
 Ford, Bacon & Davis, Inc., New York.
 Fuller & McClintock, New York, N. Y.
 Knowles, Inc., Morris, Pittsburg, Pa.
 Main, Inc., Chas. T., Boston, Mass.
 Sanderson & Porter, New York, N. Y.
 Scottfield Engineering Co., Phila., Pa.
 Stone & Webster, Inc., Boston, Mass.
 White Engineering Corp., J. G., New York.

—(Railroad.)

Mees & Mees, Charlotte, N. C.

—(Reinforced Concrete Bridges, Buildings, etc.)

Atlantic Bridge Co., Greensboro, N. C.
 Battey & Kipp, Inc., Chicago, Ill.
 Fay, Spofford & Thorndike, Boston, Mass.
 Freeland, Roberts & Co., Nashville, Tenn.
 Gardner & Howe, Memphis, Tenn.
 Greiner & Co., J. E., Baltimore, Md.
 Lockwood Greene Engrs., Inc., New York City.
 Main, Inc., Chas. T., Boston, Mass.
 Steel & Lebbey, Knoxville, Tenn.
 Tucker & Laxton, Charlotte, N. C.
 Turner, C. A. P., Minneapolis, Minn.
 Wheeler, Walter H., Minneapolis, Minn.

—(Research and Development.)

Invicta Engineering Co., Birmingham, Ala.

—(Sanitary.)

Harza Engineering Co., Chicago.
 —(Sewage Disposal Plants.)
 Fuller & McClintock, New York, N. Y.
 Kaustine Co., Inc., Perry, N. Y.
 Ludlow Engineers, Winston-Salem, N. C.
 McCrady Co., The J. B., Atlanta, Ga.
 Platt, William M., Durham, N. C.
 Wiedeman and Singleton, Inc., Atlanta.

—(Sewerage and Waterworks.)

Barrows, H. K., Boston, Mass.
 Conard & Busby, Burlington, N. J.
 Consoer, Older & Quinlan, Inc., Chicago.
 Ford, Bacon & Davis, Inc., New York.
 Fuller & McClintock, New York, N. Y.
 Harrib Engr. Co., C. N., Nashville, Tenn.
 Hills Co., George B., Jacksonville, Fla.
 Howerton Engineering Co., Asheville, N. C.
 Knowles, Inc., Morris, Pittsburg, Pa.
 Ludlow Engineers, Winston-Salem, N. C.
 Mees & Mees, Charlotte, N. C.
 Platt, William M., Durham, N. C.
 Sanderson & Porter, New York, N. Y.
 Spoon & Lewis, Greensboro, N. C.
 Tucker & Laxton, Charlotte, N. C.
 White Co., Gilbert C., Durham, N. C.
 White Engineering Corp., J. G., New York.
 Wiedeman & Singleton, Inc., Atlanta, Ga.
 Williamson, Lee H., Charlottesville, Va.

—(Structural.)

Freeland, Roberts & Co., Nashville, Tenn.
 Hedrick, Inc., Ira G., Hot Springs Nat'l Park, Ark.
 Hills Company, Geo. B., Jacksonville, Fla.
 Lockwood Greene Engrs., Inc., New York City.
 Simmons, Inc. & Associates, B. Stanley, Washington, D. C.
 Turner, C. A. P., Minneapolis, Minn.
 Virginia Bridge & Iron Co., Roanoke, Va.

—(Textile Mills.)

Lockwood Greene Engrs., Inc., New York City.

—(Transmission Lines.)

Hoosier Engineering Co., Chicago, Ill.

—(Ventilating and Heating.)

Biggs Eng. Co., W. E., Knoxville, Tenn.
 Wiley & Wilson, Lynchburg, Va.

—(Water Supply.)

Floyd & Lechridge, Dallas, Texas.

—(Engines (Compressed Air.)

Dake Engine Co., Grand Haven, Mich.

—(Diesel Type.)

Fairbanks, Morse & Co., Chicago, Ill.

—(Gas and Gasoline.)

Light Mfg. & Fdry. Co., Pottstown, Pa.
 Novo Engine Co., Lansing, Mich.
 Sterling Engine Co., Buffalo, N. Y.
 Wisconsin Motors Co., Milwaukee, Wis.

—(Gas and Oil.)

Chicago Pneumatic Tool Co., New York.

—(Hoisting.)

Clyde Iron Works Sales Co., Duluth, Minn.
 Mundy Hoisting Engine Co., J. S., Newark, N. J.

—(Marine.)

Fairbanks, Morse & Co., Chicago, Ill.

—(Oil.)

Ingersoll-Rand Co., New York, N. Y.
 Continental Gin Co., Birmingham, Ala.

—(Steam.)

Allis-Chalmers Mfg. Co., Milwaukee, Wis.
 Cole Mfg. Co., R. D., Newnan, Ga.

—(Lifting and Hoisting.)

Lefel & Co., The James, Springfield, O.
 Lombard Iron Works & Supply Co., Augusta, Ga.

—(Machinery.)

Morris Machine Works, Baldwinville, N. Y.

—(Sawing.)

Schneid's Sons Co., J. S., Macon, Ga.

—(Sawing.)

Young & Seldon Co., Baltimore, Md.

—(Sawing.)

ESTIMATORS (Building & Construction.)

Spring, Charles Herbert, Greensboro, N. C.

—(Excavating Machinery.)

Bay City Shovel, Inc., Bay City, Mich.
 Buckeye Traction Ditcher Co., Findlay, O.
 Bucyrus-Erie Co., Erie, Penna.
 Clyde Iron Works Sales Co., Duluth, Minn.

—(Excavating Machinery.)

Harbischfeger Corp., Milwaukee, Wis.
 Hayward Co., The New York, N. Y.
 Industrial Brownbelt Corp., Cleveland.
 Monaghan Mfg. Corp., Chicago, Ill.
 National Equipment Corp. (Koehring, Insley, Parsons), Milwaukee, Wis.
 Northwest Engineering Co., Chicago, Ill.
 Owen Bucket Co., The, Cleveland, Ohio.
 Thew Shovel Co., The, Lorain, Ohio.
 Universal Power Shovel Co., Milwaukee, Wis.

—(Excavating Machinery.)

EXCAVATORS (Clamshell and Orange Peel.)

Northwest Engineering Co., Chicago, Ill.
 Ohio Power Shovel Co., Lima, Ohio.
 Thew Shovel Co., Lorain, Ohio.

—(Dragline. See Dragline Excavators.)

—(Trench.)

Barber-Greene Co., Aurora, Ill.
 Bay City Shovel, Inc., Bay City, Mich.
 Buckeye Traction Ditcher Co., Findlay, O.
 Bucyrus-Erie Co., Erie, Penna.
 Harbischfeger Corp., Milwaukee, Wis.
 Hayward Co., The New York, N. Y.
 Monaghan Mfg. Corp., Chicago, Ill.
 Ohio Power Shovel Co., Lima, Ohio.
 Universal Power Shovel Co., Milwaukee, Wis.

EXHAUST FANS (See Blowers and Exhaust Fans.)

—Systems (See Blowers and Exhaust Fans.)

EXPANSION JOINTS (Road and Street.)

Serviced Premoulded Products, Inc., Chicago, Ill.

EXPLOSIVES.

Du Pont de Nemours & Co., Inc., E. I., Wilmington, Del.
 Hercules Powder Co., Inc., Wilmington, Del.

FACTORY MANAGEMENT SYSTEMS.

Ernst & Ernst, New York, N. Y.

FANS, Exhaust (See Blowers and Exhaust Fans.)

FEED-WATER HEATERS and Purifiers.

American Water Softener Co., Phila., Pa.

FENCE POSTS (Crossed.)

Ayer & Lord Tie Co., Chicago, Ill.

FENCING Entrance Gates (Iron, Steel and Wire.)

American Steel and Wire Co., Balto., Md.
 Anchor Post Fence Co., Baltimore, Md.
 Cyclone Fence Co., Waukegan, Ill.
 Page Fence Association, Chicago, Ill.
 Stewart Iron Works Co., Cincinnati, O.

—(Field and Industrial, Wire Woven.)

American Steel and Wire Co., Balto., Md.
 Anchor Post Fence Co., Baltimore, Md.
 Cyclone Fence Co., Waukegan, Ill.
 Gulf States Steel Co., Birmingham, Ala.
 Page Fence Association, Chicago, Ill.
 Stewart Iron Works Co., Cincinnati, O.

FERTILIZER MACHINERY.

Raymond Bros., Impact Pulv. Co., Chicago.

FILTER (For Domestic and Industrial Purposes.)

American Water Softener Co., Phila., Pa.
 International Filter Co., Chicago, Ill.
 Rees, S. P., Atlanta.
 Roberts Filter Mfg. Co., Darby (Phila.), Pa.

—(Filtration.)

Scale & Sons Co., Wm. B., Oakmont, Pa.

FINANCING.

Akers, William, Atlanta, Ga.
 Electric Bond & Share Co., New York.
 Equitable Trust Co., New York City.
 Garraway & Co., S. G., Chicago.
 Gay & Co., W. O., New York, N. Y.
 Marx & Co., Birmingham, Ala.

FIRE CLAY.

Alabama Clay Products Co., Birmingham.
 Cambria Clay Products Co., Blackfork, O.

FIRE EXTINGUISHERS.

Myers & Bro. Co., The F. E., Ashland, O.

FIREPROOF Building Material.

Bannon Pipe Co., Louisville, Ky.
 Robertson Co., H. H., Pittsburgh.

—Doors and Shutters.

Kinnear Mfg. Co., The, Columbus, Ohio.
 Mahon Co., R. C., Detroit, Mich.
 Moeschel-Edwards Corp., Cincinnati, O.
 Richards-Wilcox Mfg. Co., Aurora, Ill.

FIREPROOFING MATERIAL and Construction.

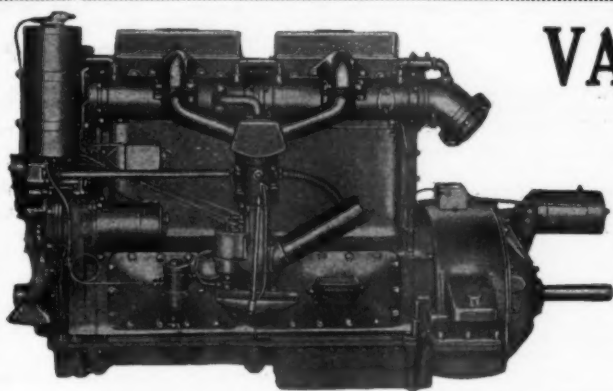
Peelle Co., The, Brooklyn, N. Y.

FITTINGS (Wire Rope.)

Leschen & Sons Rope Co., A., St. Louis.

FLANGES (Iron and Steel.)

Amer. Cast Iron Pipe Co., Birmingham.
 Dart Mfg. Co., E. M., Providence, R. I.



Four Cylinder Model

VAN BLERCK ENGINES

for dependability

The Van Blerck engine is so designed and built that it will give hard, continuous power plant service with little attention. All moving parts are enclosed, yet readily accessible. We have perfected a line of engines exactly suited for the strenuous work demanded in the industrial field.

Built in two sizes, having 4, 6, 8 and 12 cylinders.

For full particulars address

Light Manufacturing and Foundry Co., Pottstown, Pa.

CONTINENTAL GIN COMPANY

announces many new improvements in Cotton Ginning Machinery and Heavy Duty Oil Engines.

Write for Details

Address: 4600 4th Ave. So., Birmingham, Ala.

EXCELSIOR

All Standard and Special Shapes

FIRE **ALABAMA CLAY PRODUCTS CO.** **BRICK**
BIRMINGHAM ALABAMA

WATER PURIFICATION

of every type **EQUIPMENT** for every purpose

INTERNATIONAL FILTER CO.

WORKS AND GENERAL OFFICE
333 WEST 25th PLACE
CHICAGO
NEW YORK PITTSBURGH CANADIAN INTERNATIONAL FILTER CO., LTD., TORONTO SAN FRANCISCO LOS ANGELES

High Temperature Cements

FIREBOND



THERMOLITH

REFRACTORIES

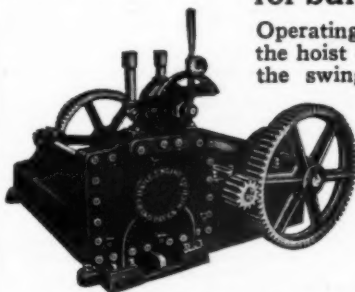
Fireclay High-Alumina Silica Chrome Magnesite

Acid-Proof Brick

HARBISON-WALKER REFRACTORIES CO.
World's Largest Producer of Refractories Pittsburgh, Pa.

DAKE SWINGING ENGINES

for bull wheel derricks



Operating independently of the hoist engine, they cut down the swinging time and speed up derrick work.

The engine has no dead centers and starts instantly from any position permitting quick accurate spotting of the load.

Also made for Electric Drive. Send for catalog.

DAKE ENGINE CO., Grand Haven, Mich.

WATER

Purified
Softened
Filtered

For every industrial and domestic use

Filters—Pressure and Gravity

Softeners—All types

127 years old

Founded 1802

WM. B. SCAIFE & SONS CO.

Executive Offices, OAKMONT, PA.

PITTSBURGH

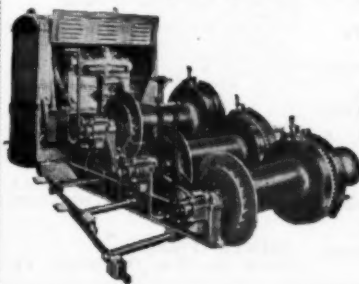
NEW YORK

CHICAGO

MUNDY HOISTS

Gasoline—Electric—Steam

Standard of the World



CAR PULLERS
CABLEWAYS

MUNDY
TRADE MARK
ESTABLISHED 1869

J. S. Mundy
Hoisting Engine Co.

Frelinghuysen Ave.
Newark, N. J.

WATER FILTERS

Pressure and Gravity type for Municipal Water Supplies, Rayon Manufacturing Plants, Textile Finishing Establishments, Raw Water Ice Plants, Laundries, Etc.

ROBERTS FILTER MANUFACTURING COMPANY

604 Columbia Avenue

Darby, Pennsylvania

FOR INDUSTRIAL, RAILROAD
MUNICIPAL AND OTHER USES

FILTERED

WATER

SOFTENED

Softeners or Filters of any type or capacity as separate or combination Systems.

AMERICAN WATER SOFTENER COMPANY

S. E. Cor. 4th & Lehigh Ave.

Philadelphia

National Cast Iron Pipe Co., Birmingham, Ala.
Taylor Forge & Pipe Wks., Chicago, Ill.
U. S. Pipe & Foundry Co., Burlington, N. J.
Vest Mch. Co., Henry, Louisville, Ky.
—and Flanged Fittings.
Grinnell Co., Inc., Providence, R. I.

FLOOR. (Asphalt Plank.)
Serrisied Premoulded Products, Inc., Chicago, Ill.

—(Composition.)
Johns-Manville Corp., New York, N. Y.

—(Cork Composition.)
Congoleum-Nairn, Inc., Kearny, N. J.

—(Hardwood, Maple, Oak.)
Kirby Lumber Co., Houston, Tex.
Nashville Hardwood Flooring Co., Nashville, Tenn.

—(Northern Hard Maple.)
Holt Hardwood Co., Oconto, Wis.

—(Open Steel.)
Blaw-Knox Co., Pittsburgh, Pa.

Irving Iron Works Co., Long Is. City, N. Y.
Kerlow Steel Flooring Co., Jersey City, N. J.

—(Rubber and Cork.)
Congoleum-Nairn, Inc., Kearny, N. J.

—Covering.
Congoleum-Nairn, Inc., Kearny, N. J.

—Hardener (Concrete.)
Sonneborn Sons, Inc., La. New York.

Standard Co., Phila., Pa.

—Plates and Stair Treads.
American Pressed Steel Co., Phila., Pa.

Central Iron & Steel Co., Harrisburg, Pa.

Myerson & Son, Inc., Jos. T., St. Louis and New York.

—Steel (For Concrete Culverts, Roads, Streets.)
Blaw-Knox Co., Pittsburgh, Pa.

—Wax.
Congoleum-Nairn, Inc., Kearny, N. J.

—(Wood) Preservative.
Standard Co., Phila., Pa.

FLUSH-TANK SIPHONS.
Kaustine Co., Inc., Perry, N. Y.
Paslco Flush-Tank Co., New York, N. Y.

FLYER PRESSERS.
Southern Spindle & Flyer Co., Charlotte, N. C.

FLYERS.
Southern Spindle & Flyer Co., Charlotte, N. C.

FORGINGS (Drop.)
Vest Mch. Co., Henry, Louisville, Ky.

FORMS, Steel (For Concrete, Culverts, Roads, Streets, Curbs, Sidewalks, Tiles.)
Blaw-Knox Co., Pittsburgh, Pa.

FOUNDATION MASONRY.
Calligan Co., A. H., Richmond, Va.

FOUNDRIES and Machine Shops.

Daemer Steel Casting Co., New Castle, Del.

General Machine Works, York, Pa.

Glanorgan Pipe & Fdry. Co., Lynchburg, Va.

Geldens' Fdry. & Mch. Co., Columbus, Ga.

Lombard Iron Works & Supply Co., Augusta, Ga.

Moccasin Bushing Co., Chattanooga, Tenn.

FOUNDRY Equipment and Supplies.

Chain Belt Co., Milwaukee, Wis.

Hill & Griffith Co., The, Cincinnati, O.

Whitting Corp., Harvey, Ill.

—Facings (Talc and Soapstone.)
Hill & Griffith Co., The, Cincinnati, O.

FUMIGATORS (Fruit, Nuts, Nursery Stock, etc.)

Union Tank & Pipe Co., Los Angeles, Cal.

FURNACES (Industrial.)

Combustion Engr. Corp., New York City.

—(Water-Cooled.)
Combustion Engr. Corp., New York City.

Fuller Lehigh Co., Fullerton, Pa.

GALVANIZED Products.

Birmingham Galvanizing Co., Birmingham, Ala.

Cattle & Bros., Jos. P., Philadelphia, Pa.

—Steel and Iron.
American Rolling Mill Co., Middletown, O.

American Sheet & Tin Plate Co., Pittsburgh, Pa.

Granite City Steel Co., Granite City, Ill.

Republic Steel Corp., Youngstown, Ohio.

GALVANIZING (Cadmium Plating.)
Birmingham Galvanizing Co., Birmingham, Ala.

—(Hot Dip.)
Bessemer Galvanizing Works, Birmingham.

Birmingham Galvanizing Co., Birmingham, Ala.

Cattle & Bros., Jos. P., Philadelphia, Pa.

Newport News Shipbuilding & Drydock Co., Newport News, Va.

GARAGES (Metal.)
Maryland Metal Building Co., Balto., Md.

GARBAGE DISPOSAL SYSTEMS
Sealcell Corp., New York, N. Y.

GAS HOLDERS.
Chattanooga Boiler & Tank Co., Chattanooga, Tenn.

Chicago Bridge & Iron Works, Atlanta, Ga.

—Producers.
Gas-O-Flame Stove Works, Port Deposit, Md.

Morgan Construction Co., Worcester, Mass.

Wood & Co., R. D., Philadelphia, Pa.

GASOLINE and KEROSENE.
Gulf Refining Co., Pittsburgh, Pa.

GASOLINE SHOVELS (See Shovels.)

GATES (Automatic Drainage.)

Armco Culvert Mfrs. Assn., Middletown, O.

Dixie Culvert & Metal Co., Atlanta, Ga.

Dixie Culvert Mfg. Co., Little Rock, Ark.

Louisiana Corr. Culvert Co., Baton Rouge, La.

Tenn. Metal Culvert Co., Nashville, Tenn.

Western Metal Mfg. Co., Houston, Texas.

GAUGE GLASSES.
Jenkins Bros., New York, N. Y.

GEARS.
DeLaval Steam Turbine Co., Trenton, N. J.

Earle Gear & Machine Co., Phila., Pa.

General Electric Co., Schenectady, N. Y.

—(Worm Reduction.)
DeLaval Steam Turbine Co., Trenton, N. J.

GENERATORS, MOTORS (New.)
Allis-Chalmers Mfg. Co., Milwaukee, Wis.

General Electric Co., Schenectady, N. Y.

Hewell Electric Motors Co., Howell, Mich.

Westinghouse Elec. & Mfg. Co., E. Pittsburgh, Pa.

Wisconsin Motor Co., Milwaukee, Wis.

—(Used.)
Belyea Co., Inc., New York City.

Electrical Equip. Co., Raleigh, N. C.

Gregory Electric Co., Chicago.

Nashville Ind. Corp., Old Hickory, Tenn.

Nussbaum & Co., V. M., Ft. Wayne, Ind.

O'Brien Machinery Co., Phila., Pa.

Randall Machinery Co., The, Cincinnati, O.

Stewart Elec. Co., John A., Cincinnati.

GEOLOGISTS. (See Engineers, Geological.)

GLASS (Art.)
Binzwanger & Co., Memphis, Tenn.

Hires Turner Glass Co., Philadelphia, Pa.

—(Plate.)
Binzwanger & Co., Inc., Memphis, Tenn.

Blue Ridge Glass Corp., Kingsport, Tenn.

Hires Turner Glass Co., Philadelphia, Pa.

—(Window.)
Blue Ridge Glass Corp., Kingsport, Tenn.

Hires Turner Glass Co., Phila., Pa.

—(Wire.)
Blue Ridge Glass Corp., Kingsport, Tenn.

Hires Turner Glass Co., Phila., Pa.

GRADERS (Elevating.)
Adams Co., J. D., Indianapolis, Ind.

Caterpillar Tractor Co., San Leandro, Calif.

—(Leaning Wheel Road.)
Adams Co., J. D., Indianapolis, Ind.

—(One Man Motor.)
Adams Co., J. D., Indianapolis, Ind.

Riddell Co., W. A., Bucyrus, Ohio.

GRAPHITE.
Dixon Crucible Co., Jos., Jersey City, N. J.

GRATES and Grate Bars.
Schofield's Sons Co., J. S., Macon, Ga.

Vogt Machine Co., Henry, Louisville, Ky.

GRATING (Area, Flooring, Sidewalk.)
Bates Steel Corp., Walter, Gray, Ind.

Blaw-Knox Co., Pittsburgh, Pa.

Hendrick Mfg. Co., Carbondale, Pa.
Irving Iron Works, Long Is. City, N. Y.
Kerlow Steel Flooring Co., Jersey City, N. J.

GRAVEL (Roofing and Road.)

American Limestone Co., Knoxville, Tenn.

Arundel Corp., The, Baltimore, Md.

Boxley & Co., W. W., Roanoke, Va.

Friend & Co., Inc., Petersburg, Va.

GREASE CUPS.
Lankenheimer Co., The, Cincinnati, O.

GRILLES (Brass, Bronze, Steel, etc.)
Manhattan Perforated Metal Co., Inc., Long Island City, N. Y.

GRINDERS (Cylinder.)
Hutto Engineering Co., Detroit, Mich.

—(Electric.)
Chicago Pneumatic Tool Co., New York.

—(Gypsum, Limestone, etc.)
Raymond Bros. Impact Pulv. Co., Chicago.

GRINDING MACHINERY (Flexible Shaft.)
Hutto Engineering Co., Detroit, Mich.

Strand & Co., N. A., Chicago, Ill.

—Wheels.
Carborundum Co., Niagara Falls, N. Y.

GUARD RAIL (Road.)
National Traffic Guard Co., Atlanta.

GUNITE CONSTRUCTION.
Cement-Gun Co., Inc., Allentown, Pa.

Cement Gun Construction Co., Chicago.

Gunite Conc. & Constr. Co., Kansas City.

Gunite Constr. Co., New York City.

Rust Engineering Co., Birmingham, Ala.

GUNPOWDER.
Du Pont de Nemours & Co., Inc., E. I., Wilmington, Del.

Hercules Powder Co., Inc., Wilmington, Del.

GUNS (Hydraulic.)
Georgia Iron Works, Augusta, Ga.

HANGARS (Airplane.)
Blaw-Knox Co., Pittsburgh, Pa.

Braden Steel Corp., Tulsa, Okla.

Ingalls Iron Works, Birmingham, Ala.

Maryland Metal Bldg. Co., Balto., Md.

HANGERS (Door, All Kinds.)
Richards-Wilcox Mfg. Co., Aurora, Ill.

—(Line Shaft.)
American Pulley Co., Philadelphia, Pa.

Wood's Sons Co., T. B., Chambersburg, Pa.

HARBOR IMPROVEMENTS.
Arundel Corp., Baltimore, Md.

Atlanta, Gulf & Pacific Co., New York.

HARDWARE (Door.)
Richards-Wilcox Mfg. Co., Aurora, Ill.

HEATERS (Asphalt.)
Honhorst Co., Jos., Cincinnati, O.

HEATING Apparatus (Engineers and Contractors.)

Grinnell Co., Inc., Providence, R. I.

Poe Piping & Heating Co., Greenville, S. C.

Skinner Bros. Mfg. Co., St. Louis, Mo.

—Systems.
Clarage Fan Co., Kalamazoo, Mich.

Skinner Bros. Mfg. Co., St. Louis, Mo.

HOISTING MACHINERY.
Clyde Iron Works Sales Co., Duluth, Minn.

Lidgerwood Mfg. Co., Elizabeth, N. J.

HOISTS (Air Portable.)
Ingersoll-Rand Co., New York, N. Y.

Sullivan Machinery Co., Chicago, Ill.

—(Chain.)
Harrington Co., The, Philadelphia, Pa.

—(Electric.)
Clyde Iron Works Sales Co., Duluth, Minn.

Harnischfeger Corp., Milwaukee, Wis.

Milwaukee Elec. Cranes & Hoist Corp., Milwaukee, Wis.

Mundy Hoisting Engine Co., J. S., Newark, N. J.

Noro Engine Co., Lansing, Mich.

O. K. Clutch & Mch. Co., Columbia, Pa.

Street Bros. Mch. Wks., Chattanooga, Tenn.

—(Gasoline.)
Clyde Iron Works Sales Co., Duluth, Minn.

Dake Engine Co., Grand Haven, Mich.
Mundy Hoisting Engine Co., J. S., Newark, N. J.

National Equipment Corp. (C. H. & K. Division), Milwaukee, Wis.

Noro Engine Co., Lansing, Mich.

O. K. Clutch & Mch. Co., Columbia, Pa.

Street Bros. Mch. Wks., Chattanooga, Tenn.

—(Hand Power.)
O. K. Clutch & Mch. Co., Columbia, Pa.

—(Steam.)
Clyde Iron Works Sales Co., Duluth, Minn.

Dake Engine Co., Grand Haven, Mich.

Mundy Hoisting Engine Co., J. S., Newark, N. J.

Street Bros. Mch. Wks., Chattanooga, Tenn.

HOOPS, Bands, etc. (Galvanized.)
Connors Steel Co., Birmingham, Ala.

HOPPERS (Aggregate, Measuring and Weighing.)
Blaw-Knox Co., Pittsburgh, Pa.

HOSE (Rubber.)
Republic Rubber Co., Youngstown, Ohio.

HOTELS.
Heiss Hotel Systems, St. Louis, Mo.

Murphy's Hotel, Richmond, Va.

Rice Hotel, Houston, Texas.

Southern Hotel, The, Baltimore, Md.

HOUSE MOVING.
Eichleay, Jr. Co., John, Pittsburgh.

HULLS (Steel.)
American Steel Dredge Co., Fort Wayne, Ind.

HUMIDIFYING and DRYING EQUIPMENT.
Grinnell Co., Inc., Providence, R. I.

Skinner Bros. Mfg. Co., St. Louis, Mo.

HYDRANTS (Fire.)
Ludlow Valve Mfg. Co., The, Troy, N. Y.

Myers & Bro. Co., The, F. H., Ashland, O.

Vogt Brothers Mfg. Co., Louisville, Ky.

Wood & Co., R. D., Philadelphia, Pa.

HYDRO - ELECTRIC POWER COMPANIES (Offering Industrial and Commercial Opportunities.)

Alabama Power Co., Birmingham, Ala.

Central Power & Light Co., San Antonio.

Georgia Power Co., Atlanta, Ga.

Texas Power & Light Co., Dallas, Texas.

ICE and Refrigerating Machinery and Supplies.

Ingersoll-Rand Co., New York, N. Y.

Vogt Mch. Co., Henry, Louisville, Ky.

INCINERATORS.
Duplex Hanger Co., Cleveland, Ohio.

INCORPORATORS.
Corporation Service Co., Wilmington, Del.

Delaware Registration Trust Co., Wilmington, Del.

INJECTORS.
Jenkins Bros., New York, N. Y.

Randall Machinery Co., The, Cincinnati, O.

INSULATING MATERIALS.
General Electric Co., Schenectady, N. Y.

Johns-Manville Corp., New York, N. Y.

Okonite Co., New York, N. Y.

INVESTMENT SECURITIES.
Electric Bond & Share Co., New York.

Gay & Co., W. O., New York City.

Hanchett Bond Co., Inc., The, Chicago, Ill.

Marx & Co., Birmingham, Ala.

Mercantile Trust Co., Baltimore, Md.

Nureen & Co., John, Chicago.

Peabody & Co., Chicago.

Provident Savings Bank & Trust Co., Cincinnati, Ohio.

Robinson-Humphrey Co., Atlanta, Ga.

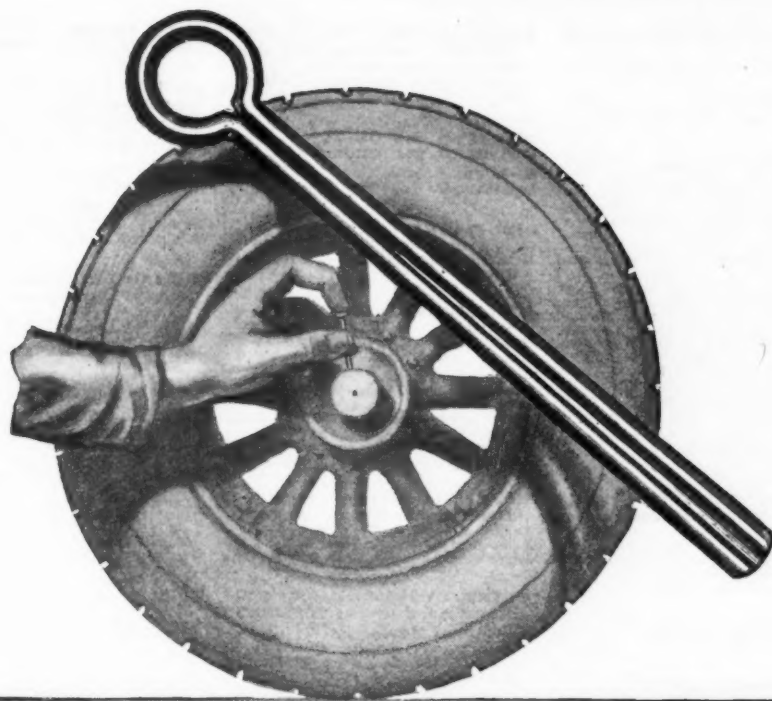
Seasongood & Mayer, Cincinnati, Ohio.

Taylor, Wilson & Co., Inc., Cincinnati, O.

IRON.
Tennessee Coal, Iron & Railroad Co., Birmingham, Ala.

—(Ingot, For Culverts, etc.)
American Rolling Mill Co., Middletown, O.

JOINTS (Pipe.)
Leadite Co., The, Philadelphia, Pa.



YOU WOULDN'T USE A NAIL FOR THIS JOB INSTEAD OF A COTTER PIN—

YET the nail would serve after a fashion. In some ways it might seem as good as a cotter pin, but what good mechanic would take a chance?

OKONITE insulated wires and cables have over a half-century of dependable performance to recommend them. They have the inbuilt stamina to resist the deteriorating effects of time. They retain their original insulating quality for thirty, forty, fifty years, and more.

Don't take chances with power supply by using electrical wires and cables of unproven quality. In some ways they may seem as good as OKONITE but, for the slight initial saving in cost, does it pay to jeopardize your production schedules?

Specify "OKONITE EXCLUSIVELY" in requisitions and purchase orders. That is the only way to be sure of getting OKONITE quality.



THE OKONITE COMPANY

Founded 1878

THE OKONITE-CALLENDER CABLE COMPANY, INC

Factories: Passaic, N. J.

Paterson, N. J.

SALES OFFICES:

NEW YORK

BIRMINGHAM

CHICAGO

SAN FRANCISCO

PITTSBURGH

ST. LOUIS

LOS ANGELES

BOSTON

SEATTLE

ATLANTA

DALLAS

Novelty Electric Co., Philadelphia, Pa.
F. D. Lawrence Electric Co., Cincinnati, O.

Canadian Representatives:
Engineering Materials, Limited, Montreal

Cuban Representatives:
Victor G. Mendoza Co., Havana

JOIST HANGERS.

Duplex Hanger Co., Cleveland, Ohio.

KETTLES (Pavers and Roofers.)

Hohorst Co., Jos., Cincinnati, O.

LADDERS (Rolling.)

Myers & Bro. Co., The F. E., Ashland, O.

—(Wooden.)Dayton Safety Ladder Co., Cincinnati, O.
Patent Seafolding Co., Chicago, Ill.**LAMPS (Incandescent.)**General Electric Vapor Lamp Co., Hoboken, N. J.
Western Electric Co., New York City.**LATH (Metal.)**

Ingalls Iron Works Co., Birmingham, Ala.

LATHES.

Sebastian Lath Co., Cincinnati, Ohio.

LAWN FURNITURE (Wire.)

Dufur, Raggett & Co., Baltimore, Md.

LIGHTING (Factory and Mill.)

General Electric Vapor Lamp Co., Hoboken, N. J.

—Fixtures (Electric.)Benson Brass & Chandler Works, Kansas City, Mo.
Western Electric Co., New York City.**LININGS (Flue, Fire Clay.)**Lee Clay Products Co., Clearfield, Ky.
Owensboro Sewer Pipe Co., Owensboro, Ky.**—(Tube Mill.)**

Fuller Lehigh Co., Fullerton, Pa.

LINOLEUM (Battleship, Jaspe.)

Congoleum-Nairn, Inc., Kearny, N. J.

LITHOGRAPHERS and ENGRAVERS.Smith & Son Co., Oscar T., Baltimore, Md.
Young & Selden Co., Baltimore, Md.**LOADING and UNLOADING MACHINERY (Portable.)**Barber-Greene Co., Aurora, Ill.
Northwest Engineering Co., Chicago, Ill.**LOCOMOTIVES (Compressed Air.)**

Porter Co., H. K., Pittsburgh, Pa.

—(Fireless Stere Steam.)
Porter Co., H. K., Pittsburgh, Pa.—(Gasoline.)
Porter Co., H. K., Pittsburgh, Pa.
Whitcomb Co., Geo. D., Rochelle, Ill.—(Industrial.)
Birmingham Rail & Locomotive Co., Birmingham, Ala.Porter Co., H. K., Pittsburgh, Pa.
Southern Iron & Equipment Co., Atlanta.
Whitcomb Co., Geo. D., Rochelle, Ill.—(Mining.)
Porter Co., H. K., Pittsburgh, Pa.
Whitcomb Co., Geo. D., Rochelle, Ill.—(Railway.)
Porter Co., H. K., Pittsburgh, Pa.
Southern Iron & Equipment Co., Atlanta.
Whitcomb Co., Geo. D., Rochelle, Ill.**LOGGING MACHINERY.**

Clyde Iron Works Sales Co., Duluth, Minn.

LOOM PICK COUNTER

Veeder-Root, Inc., Hartford, Conn.

LUBRICANTS.Dixon Crucible Co., Jos., Jersey City, N. J.
Gulf Refining Co., Pittsburgh, Pa.**LUBRICATORS (Force Feed.)**

Lunkenheimer Co., The, Cincinnati, O.

LUBRICATION SYSTEMS.

Alomite Corp., Chicago, Ill.

LUMBER (Ceiling, Flooring, Siding.)Industrial Lumber Co., Elizabeth, La.
Kirby Lumber Co., Houston, Texas.—(Creosoted.)
Amer. Creosote Wks., Inc., New Orleans, La.Amer. Creosoting Co., Inc., Louisville, Ky.
Ayer & Lord Tie Co., Inc., Chicago.
Carolina Wood Preserving Co., Charleston, S. C.
Delaware Wood Preserving Co., Phila.
Eppinger & Russell Co., New York, N. Y.
Gulf States Creos. Co., Hattiesburg, Miss.
Savannah Creos. Co., Savannah, Ga.—(Heavy Construction, Pitch, Pine, etc.)
Industrial Lumber Co., Elizabeth, La.
Kirby Lumber Co., Houston, Texas.—(Zinc Meta Arsenite Treated.)
Curtin-Howe Corp., New York City.**MACHINERY (Special.)**Bliss Co., E. W., Brooklyn, N. Y.
Earle Gear & Machine Co., Phila., Pa.
Fornholt Machinery Co., St. Louis, Mo.
General Machine Works, York, Pa.
Whiting Corp., Harvey, Ill.—and Supplies (New and Used.)
Belyea Co., Inc., New York City.Dempster Equip. Co., Knoxville, Tenn.
Electric Service Co., Cincinnati, Ohio.
Equip. Sales & Rentals Co., Pittsburgh.
Heineken Engineering Corp., New York.
Marine Metal & Supply Co., New York.
Nashville Ind. Corp., Old Hickory, Tenn.
O'Brien Machinery Co., The, Phila., Pa.
Randle Machinery Co., The, Cincinnati, O.
Ryerson & Son, Inc., Jos. T., St. Louis and New York.
Seyfert's Sons, Inc., L. F., Phila., Pa.
Zelnicker Supply Co., W. A., St. Louis.**MACHINE TENDERS (Steel.)**

Angie Steel Steel Co., Plainwell, Mich.

—(Tools.)Ryerson & Son, Inc., Jos. T., St. Louis and New York.
Sebastian Lath Co., Cincinnati, Ohio.**—(Used.)**Delta Equipment Co., Philadelphia, Pa.
O'Brien Machinery Co., Phila., Pa.**MAIL CHUTES.**

Cutler Mail Chute Co., Rochester, N. Y.

MARBLE (Producers and Manufacturers.)

Georgia Marble Co., Tate, Ga.

MATERIAL ELEVATORS.

National Equipment Corp. (Insley, C. H. & E.), Milwaukee, Wis.

METAL-Cutting Machinery.Atkins & Co., E. C., Indianapolis, Ind.
Earle Gear & Machine Co., Phila., Pa.**—Working Machinery.**

Bliss Co., E. W., Brooklyn, N. Y.

MILL MACHINERY and SUPPLIES.

Lombard Iron Works & Supply Co., Augusta, Ga.

MINING MACHINERY.

McLanahan-Stone Machine Co., Hollidaysburg, Pa.

MIXERS.

National Equipment Corp. (Koehring, T. L. Smith, Kwik-Mix), Milwaukee, Wis.

—(Asphalt.)

Erie Machine Shops, Erie, Pa.

—(Hot.)

Koehring Co., Milwaukee, Wis.

—(Mortar.)Chain Belt Co., Milwaukee, Wis.
Jaeger Machine Co., Columbus, Ohio.**—(Plaster.)**Blystone Mfg. Co., Cambridge Springs, Pa.
Chain Belt Co., Milwaukee, Wis.
Dunning & Boeschert Press Co., Syracuse, N. Y.
Jaeger Machine Co., Columbus, Ohio.**MORTAR INGREDIENT.**

Louisville Cement Co., Louisville, Ky.

MOTORS (Electric.)Fairbanks, Morse & Co., Chicago, Ill.
General Electric Co., Schenectady, N. Y.
Howell Electric Motors Co., Howell, Mich.
Western Electric Co., New York City.
Westinghouse Elec. & Mfg. Co., E. Pittsburgh, Pa.**—(Gasoline.)**

Wisconsin Motor Co., Milwaukee, Wis.

MOTOR TRUCKS.

International Harvester Co., of America, Inc., Chicago, Ill.

NAILS (Cut.)

Reading Iron Co., Reading, Pa.

—and Spikes.American Steel & Wire Co., Balto., Md.
Gulf States Steel Co., Birmingham, Ala.
Tennessee Coal, Iron & Railroad Co., Birmingham, Ala.
Youngtown Sheet & Tube Co., Youngtown, Ohio.**NATURAL GAS COMPANIES. (Offering Industrial and Commercial Opportunities.)**

Arkansas Natural Gas Corp., Shreveport, La.

OIL (Fuel and Gas.)

Gulf Refining Co., Pittsburgh, Pa.

—Cups.

Lunkenheimer Co., The, Cincinnati, O.

ORE-WASHING MACHINERY.Georgia Iron Works, Augusta, Ga.
McLanahan Stone Machine Co., Hollidaysburg, Pa.**ORNAMENTAL BRONZE WORK.**Heath Co., J. S., Waukegan, Ill.
Michaels Art Bronze Co., Covington, Ky.**—Iron Work.**Roanoke Iron & Bridge Wks., Roanoke, Va.
Seese Architectural Iron Works, Louisville, Ky.
Southern Engineering Co., Charlotte, N. C.
Stewart Iron Works Co., Cincinnati, O.**PACKING (Asbestos, Metallic, Rubber, Leather, etc.)**Jenkins Bros., New York, N. Y.
John-Manville Corp., New York, N. Y.
Republic Rubber Co., Youngstown, Ohio.**PAINT (Aluminum.)**

Aluminum Co. of America, Pittsburgh, Pa.

—(Metal Surfaces.)Aluminum Co. of America, Pittsburgh, Pa.
Dixon Crucible Co., Jos., Jersey City, N. J.**—(Mill White, For Interior.)**

Aluminum Co. of America, Pittsburgh, Pa.

—(Preservative.)Cabot, Inc., Samuel, Boston, Mass.
Foster Co., Benjamin, Philadelphia, Pa.**PANELBOARDS.**

Adam Elec. Co., Frank, St. Louis.

PARTITIONS (Metal, Folding, Rolling.)Kinnear Mfg. Co., The, Columbus, Ohio.
Lupton's Sons Co., David, Phila., Pa.**—(Sectionfold, Rolling, Wood.)**

Wilson Corp., The, J. G. New York.

PATENT ATTORNEYS.Buck, Sterling P., Washington, D. C.
Coleman, Watson E., Washington, D. C.
Eaton, Paul B., Charlotte, N. C.
Sasnett, Edward C., Washington, D. C.
Seymour & Bright, Washington, D. C.**PATTERNS (Drawing, etc.)**

Hass Pattern Co., A. W., Atlanta, Ga.

PAVING BLOCKS (Creosoted Wood.)

American Creosote Works, New Orleans.

—Blocks (Rubber.)

Servicised Premoulded Products, Inc., Chicago, Ill.

—(Brick.)

National Paving Brick Mfrs. Assn., Washington, D. C.

—Mixers.

National Equipment Corp. (Koehring, T. L. Smith), Milwaukee, Wis.

—Plant (Asphalt.)

Simplicity System Co., Chattanooga, Tenn.

PENSTOCKS.Chattanooga Boiler & Tank Co., Chattanooga, Tenn.
Chicago Bridge & Iron Works, Atlanta.
Pittsburgh-Des Moines Steel Co., Pittsburgh, Pa.
Smith Co., S. Morgan, York, Pa.**PERFORATED METAL.**Chicago Perforating Co., Chicago, Ill.
Erdie Perforating Co., Rochester, N. Y.
Harrington & King Perf. Co., Chicago.
Hendrick Mfg. Co., Carbondale, Pa.
Manhattan Perforated Metal Co., Inc., Long Island City, N. Y.
Mundt & Sons, Charles, Jersey City, N. J.**PETROLEUM REFINERS.**

Gulf Refining Co., Pittsburgh, Pa.

PHOSPHATE ACID.

Davison Chemical Co., Baltimore, Md.

—(Machinery.)

McLanahan-Stone Machine Co., Hollidaysburg, Pa.

PIG-IRON.Republic Steel Corp., Youngstown, Ohio.
Sloss-Sheffield Steel & Iron Co., Birmingham, Ala.
Tennessee Coal, Iron & Railroad Co., Birmingham, Ala.**PILE SHOES.**

Janney, Jr., Jos. A., Phila., Pa.

PILING (Creosoted.)Amer. Creosote Wks., Inc., New Orleans.
Amer. Creosoting Co., Inc., Louisville.
Ayer & Lord Tie Co., Inc., Chicago.
Carolina Wood Preserving Co., Charleston, S. C.
Savannah Creosoting Co., Inc., Savannah.
Wales Wood-Preserving Co., Norfolk, Va.**—(Steel Sheet.)**Carnegie Steel Co., Pittsburgh, Pa.
Zelnicker Supply Co., W. A., St. Louis.**PILLOW BLOCKS.**

Goldens' Fdry. & Mch. Co., Columbus, Ga.

PIPE.Albert & Davidson Pipe Corp., Brooklyn, N. Y.
Albert Pipe Sup. Co., Inc., Brooklyn, N. Y.
Armco Culvert Mfrs. Assn., Middletown, Ohio.
Birmingham Boiler & Engr. Co., Birmingham, Ala.
Central Pipe & Sup. Co., Charleston, W. Va.
Greenpoint Iron & Pipe Co., Inc., Brooklyn, N. Y.
Hudson Pipe & Sup. Co., Bayonne, N. J.
Maryland Pipe & Steel Corp., Baltimore, Md.
National Tube Co., Pittsburgh, Pa.
Pittsburgh Piping & Equip. Co., Pittsburgh, Pa.
Power Piping Co., Pittsburgh, Pa.
Smith Corp., A. O., Milwaukee, Wis.**—(Cast Iron.)**Amer. Cast Iron Pipe Co., Birmingham.
Cast Iron Pipe Research Assn., Chicago.
Central Foundry Co., The, New York, N. Y.
Glamorgan Pipe & Fdry. Co., Lynchburg, Va.
National Cast Iron Pipe Co., Birmingham, Ala.
U. S. Pipe & Foundry Co., Burlington, N. J.**—(Dredge.)**

Abendroth & Root Mfg. Co., New York.

—(Hammer-Welded.)

National Tube Co., Pittsburgh, Pa.

—(Iron and Steel.)

Ryerson & Son, Inc., Jos. T., St. Louis and New York.

—(Riveted.)

Abendroth & Root Mfg. Co., New York.

—(Second-Hand.)

Albert & Davidson Pipe Corp., Brooklyn, N. Y.

Central Pipe & Sup. Co., Charleston, W. Va.
Greenpoint Iron & Pipe Co., Inc., Brooklyn, N. Y.Hudson Pipe & Supply Co., Bayonne, N. J.
Marine Metal & Supply Co., New York.
Maryland Pipe & Steel Corp., Baltimore, Md.**—(Spiral Riveted.)**Abendroth & Root Mfg. Co., New York.
Taylor Forge & Pipe Wks., Chicago, Ill.**—(Steel.)**Bethlehem Steel Co., Bethlehem, Pa.
National Tube Co., Pittsburgh, Pa.
Pittsburgh Piping & Equip. Co., Pittsburgh, Pa.
Power Piping Co., Pittsburgh, Pa.
Republic Steel Corp., Youngstown, Ohio.
Smith Corp., A. O., Milwaukee, Wis.
Youngstown Sheet & Tube Co., Youngstown, Ohio.**—(Wrought Iron.)**

Reading Iron Co., Reading, Pa.

—Benders and Headers.

Grinnell Co., Inc., Providence, R. I.

—Bending Machines.

American Pipe Bending Machine Co., Boston, Mass.

—Coatings.

Foster Co., Benjamin, Philadelphia, Pa.

—Fittings.Amer. Cast Iron Pipe Co., Birmingham.
Georgia Iron Works, Augusta, Ga.
Grinnell Co., Inc., Providence, R. I.—Lines (Water, Gas & Oil—Riveted or Welded.)
Biggs Boiler Works Co., Akron, Ohio.
Smith Corp., A. O., Milwaukee, Wis.**—Machinery (Concrete.)**

Quinn Wire & Iron Works, Boone, Iowa.

—Unions and Joints.Dart Mfg. Co., E. M., Providence, R. I.
Smith Corp., A. O., Milwaukee, Wis.**—Systems (Industrial.)**Grinnell Co., Inc., Providence, R. I.
Pittsburgh Piping & Equip. Co., Pittsburgh, Pa.

Power Piping Co., Pittsburgh, Pa.

PLANERS and Mortisers (Hand and Electric.)

Wappat, Incorporated, Pittsburgh, Pa.

PLATES (Steel.)

Bethlehem Steel Co., Bethlehem, Pa.
Carnegie Steel Co., Pittsburgh, Pa.
Central Iron & Steel Co., Harrisburg, Pa.
Chattanooga Boiler & Tank Co., Chattanooga, Tenn.
Granite City Steel Co., Granite City, Ill.
Ryerson & Son, Inc., Jos. T., St. Louis and New York.
Tennessee Coal, Iron & Railroad Co., Birmingham.

PNEUMATIC TOOLS.

Chicago Pneumatic Tool Co., New York.
Ingersoll-Rand Co., New York, N. Y.

POLES (Creosoted.)

Amer. Creosote Wks., Inc., New Orleans.
Amer. Creosoting Co., Inc., Louisville, Ky.
Ayer & Lord Tie Co., Inc., Chicago.
Brown Wood Preserving Co., Louisville, Ky.
Carolina Wood Preserving Co., Charleston, S. C.
Savannah Creosoting Co., Savannah, Ga.
Taylor-Colquitt Co., Spartanburg, S. C.

—(Steel.)

Bates Steel Corp., Walter, Gray, Ind.

—(Tubular, Steel.)

National Tube Co., Pittsburgh, Pa.

—(Zinc Meta Arsenite Treated.)
Curtin-Hove Corp., New York City.

POLISHING MACHINERY.

(Wheels, Blocks.)
Carborundum Co., Niagara Falls, N. Y.

PORTABLE HOUSES (Metal.)

Braden Steel Corp., Tulsa, Okla.
Maryland Metal Building Co., Balto., Md.

POST CAPS.

Duplex Hanger Co., Cleveland, Ohio.

POSTS (Cast Iron, Railway and Highway.)

U. S. Pipe & Foundry Co., Burlington, N. J.

POWER TRANSMISSION MACHINERY.

American Pulley Co., Philadelphia, Pa.
Diamond Chain & Mfg. Co., Indianapolis.
Golden's Fdy. & Mch. Co., Columbus, Ga.
Morse Chain Co., Ithaca, N. Y.
O'Brien Machinery Co., Phila., Pa.
Schofield's Sons Co., J. E., Mass.
Wood's Sons Co., T. B., Chambersburg, Pa.

—(Pumps.)

Luitwieler Pumping Engine Co., Rochester, N. Y.

PREHEATERS (Air.)

Combustion Engr. Corp., New York City.

PRESSES, (Baling, Cottonseed Oil, Hydraulic and Power.)

Dunning & Boschert Press Co., Inc., Syracuse, N. Y.

Ripley Foundry & Machine Co., Ripley, O.

—(Hydraulic Wheel.)
Inter-State Fdry. & Mch. Wks., Johnson City, Tenn.

—(Metal Stamping.)

Bliss Co., E. W., Brooklyn, N. Y.

PRINTERS (Book, Catalog, Job.)

Smith & Son Co., Oscar T., Baltimore, Md.
Young & Selden Co., Baltimore, Md.

PRODUCER (Gas Machines.)

Gay-O-Flame Stove Works, Port Deposit, Md.
Morgan Construction Co., Worcester, Mass.
Wood & Co., R. D., Phila., Pa.

PULLER-JACKS.

Edelblute Co., T. H., Pittsburgh, Pa.

PULLEYS (Friction Clutch.)

Caldwell Co., Inc., W. E., Louisville, Ky.
Schultz & Son, A. L., Chicago, Ill.

Wood's Sons Co., T. B., Chambersburg, Pa.

—(Motor and Machine.)
American Pulley Co., Philadelphia, Pa.

—(Steel Split.)
American Pulley Co., Phila., Pa.

—Shafting and Hangers.
American Pulley Co., Phila., Pa.

Golden's Fdry. & Mch. Co., Columbus, Ga.
Wood's Sons Co., T. B., Chambersburg, Pa.

PULVERIZED COAL EQUIPMENT.

Whiting Corp., Harvey, Ill.

PULVERIZED FUEL EQUIPMENT.

Combustion Engr. Corp., New York City.
Fuller Lehigh Co., Fullerton, Pa.

PULVERIZERS (See Crushing and Pulverizing Machinery.)

American Well Works, Aurora, Ill.
Cameron, A. S., Steam Pump Works (Ingersoll-Rand Co.), New York City.

PUMPING MACHINERY.

American Well Works, Aurora, Ill.
Cameron, A. S., Steam Pump Works (Ingersoll-Rand Co.), New York City.

Chain Belt Co., Milwaukee, Wis.
Cook, Inc., A. D., Lawrenceburg, Ind.

Fairbanks, Morse & Co., Chicago, Ill.
Ingersoll-Rand Co. (A. S. Cameron Steam Pump Works), New York, N. Y.

Keystone Pump & Drill Co., Beaver Falls, Pa.

Luitwieler Pumping Engine Co., Rochester, N. Y.

Myers & Bro. Co., The F. E., Ashland, Ohio.

National Equipment Corp. (C. H. & E. Division), Milwaukee, Wis.

Platt Iron Works, Dayton, Ohio.

Union Steam Pump Co., Battle Creek, Mich.

Viking Pump Co., Cedar Falls, Iowa.

Virginia Mch. & Well Co., Richmond, Va.

PUMPS (Air.)

Manistee Iron Works Co., Manistee, Mich.

—(Air Lift.)
Ingersoll-Rand Co., New York, N. Y.

Sullivan Machinery Co., Chicago, Ill.

—(Boiler Feed.)
Allis-Chalmers Mfg. Co., Milwaukee, Wis.

Cameron, A. S., Steam Pump Works (Ingersoll-Rand Co.), New York City.

DeLaval Steam Turbine Co., Trenton, N. J.

Erie Pump & Engine Wks., Medina, N. Y.

Ingersoll-Rand Co. (A. S. Cameron Steam Pump Works), New York, N. Y.

Manistee Iron Works Co., Manistee, Mich.

Myers & Bro. Co., The F. E., Ashland, O.

—(Centrifugal.)
Allis-Chalmers Mfg. Co., Milwaukee, Wis.

American Well Works, Aurora, Ill.

Cameron, A. S., Steam Pump Works (Ingersoll-Rand Co.), New York City.

DeLaval Steam Turbine Co., Trenton, N. J.

Emerson Pump & Valve Co., Alexandria, Va.

Erie Pump & Engine Wks., Medina, N. Y.

Fairbanks, Morse & Co., Chicago, Ill.

Ingersoll-Rand Co. (A. S. Cameron Steam Pump Works), New York, N. Y.

Jacobs Machine Co., Columbus, Ohio.

Layne & Bowler, Inc., Memphis, Tenn.

Manistee Iron Works Co., Manistee, Mich.

Morris Machine Wks., Baldwinville, N. Y.

Nova Engine Co., Lansing, Mich.

Union Steam Pump Co., Battle Creek, Mich.

—(Contractors.)
Emerson Pump & Valve Co., Alexandria, Va.

Erie Pump & Engine Wks., Medina, N. Y.

Nova Engine Co., Lansing, Mich.

—(Deep Well.)
American Well Works, Aurora, Ill.

Cook, Inc., A. D., Lawrenceburg, Ind.

Keystone Pump & Drill Co., Beaver Falls, Pa.

Layne & Bowler, Inc., Memphis, Tenn.

Luitwieler Pumping Engine Co., Rochester, N. Y.

Nova Engine Co., Lansing, Mich.

—(Diaphragm.)
Nova Engine Co., Lansing, Mich.

—(Hydraulic.)
Dunning & Boschert Press Co., Inc., Syracuse, N. Y.

—(Power.)
American Well Works, Aurora, Ill.

Platt Iron Works, Dayton, Ohio.

Sterling Engine Co., Buffalo, N. Y.

—(Pulverized Coal.)
Fuller Lehigh Co., Fullerton, Pa.

—(Rotary.)
Viking Pump Co., Cedar Falls, Iowa.

—(Sand and Dredging.)
Ellicott Machine Corp., Baltimore, Md.

Erie Pump & Engine Wks., Medina, N. Y.

Georgia Iron Works, Augusta, Ga.

—(Steam.)
Cameron, A. S., Steam Pump Works (Ingersoll-Rand Co.), New York City.

Emerson Pump & Valve Co., Alexandria, Va.

Fairbanks, Morse & Co., Chicago, Ill.

Ingersoll-Rand Co. (A. S. Cameron Steam Pump Works), New York, N. Y.

Platt Iron Works, Dayton, Ohio.

Union Steam Pump Co., Battle Creek, Mich.

—(Vacuum.)
Allis-Chalmers Mfg. Co., Milwaukee, Wis.

Chicago Pneumatic Tool Co., New York.

Ingersoll-Rand Co., New York, N. Y.

Sullivan Machinery Co., Chicago, Ill.

—(Water Works.)
American Well Works, Aurora, Ill.

Layne & Bowler, Inc., Memphis, Tenn.

Manistee Iron Works Co., Manistee, Mich.

PUNCHING and SHEARING MACHINERY.

Bliss Co., E. W., Brooklyn, N. Y.

Whitney Metal Tool Co., Rockford, Ill.

RACK RAKES.

Newport News Shipbuilding & Drydock Co., Newport News, Va.

RADIATOR ENCLOSURES.

Manhattan Perforated Metal Co., Inc., Long Island City, N. Y.

RAILINGS (Iron Pipe.)

Pipe Railing Constr. Co., Long Island City, N. Y.

—and Grilles, Iron and Brass, (Banks and Offices.)

Dufur, Baggott & Co., Baltimore, Md.

Ludlow Saylor Wire Co., The St. Louis, Mo.

RAILROAD Equipment and Supplies (New.)

Robinson & Orr, Pittsburgh, Pa.

Whiting Corp., Harvey, Ill.

—Equipment and Supplies (Used.)

Birmingham Rail & Loco. Co., Birmingham.

Equip. Sales & Rentals Co., Pittsburgh.

Levis & Co., Henry, Philadelphia, Pa.

Penn Machinery Co., H. O., New York.

Smith & Co., W. M., Birmingham, Ala.

Southern Iron and Equip. Co., Atlanta.

Zelnicke Supply Co., W. A., St. Louis.

—(Frogs and Switches.)
Bethlehem Steel Co., Bethlehem, Pa.

Frank, M. K., Pittsburgh, Pa.

Koppel Ind. Car & Equip. Co., Koppel, Pa.

Robinson & Orr, Pittsburgh, Pa.

RAILROADS — (Offering Industrial, Agricultural and Commercial Opportunities.)

Atlanta and West Point R. R., Atlanta.

Central of Georgia Rwy., Savannah, Ga.

Missouri - Kansas - Texas Lines, Dallas, Texas.

Model Land Company, Flagler System, St. Augustine, Fla.

Norfolk & Western Railway, Roanoke, Va.

Tennessee Central Railway, Nashville, Tenn.

RAILS (New and Used.)

Birmingham Rail & Locomotive Co., Birmingham, Ala.

Carnegie Steel Co., Pittsburgh, Pa.

Frank, M. K., Pittsburgh, Pa.

Levis & Co., Henry, Philadelphia, Pa.

Perry, Burton, Doane Co., Philadelphia.

Robinson & Orr, Pittsburgh, Pa.

Smith & Co., W. M., Birmingham, Ala.

Southern Iron & Equip. Co., Atlanta, Ga.

Sweet's Steel Co., Williamsport, Pa.

Tennessee Coal, Iron & Railroad Co., Birmingham, Ala.

Waller & Co., Birmingham, Ala.

Zelnicke Supply Co., W. A., St. Louis.

RAILWAYS (Industrial.)

Easton Car & Construction Co., Easton, Pa.

Koppel Ind. Car & Equip. Co., Koppel, Pa.

—(Marine.)
Charleston Dry Dock and Machine Co., Charleston, S. C.

RECEPTACLES (Self-Closing, Waste Paper.)

Whitaker Paper Co., Baltimore, Md.

REELS and SPOOLS. (Pressed Metal.)

American Pulley Co., Philadelphia, Pa.

REFRACATORIES.

Harbison-Walker Refractories Co., Pittsburgh.

Taylor Sons Co., Charles, Cincinnati.

REFRIGERATING Machinery

(See Ice and Refrigerating Machinery and Supplies.)

REINFORCING for Concrete.

American Steel and Wire Co., Balto., Md.

Carnegie Steel Co., Pittsburgh, Pa.

Connors Steel Co., Birmingham, Ala.

Dietrich Brothers, Baltimore, Md.

Gulf States Steel Co., Birmingham, Ala.

Knoxville Iron Co., Knoxville, Tenn.

Pidgeon-Thomas Iron Co., Memphis, Tenn.

Ryerson & Son, Inc., Jos. T., St. Louis and New York.

Southern Engineering Co., Charlotte, N. C.

Truscon Steel Co., Youngstown, O.

RESURFACING MATERIALS

(Floor, Roof and Roadways.)

Stonhard Co., Phila., Pa.

RETORTS (Special Process—Riveted or Welded.)

Biggs Boiler Works, Akron, Ohio.

RIVER & HARBOR IMPROVEMENTS, (Dredging, Docks, Wharves, etc.)

Arundel Corp., The, Baltimore, Md.

Atlantic Gulf and Pacific Co., New York.

Kansas City Bridge Co., Kansas City.

RIVETS.

Russell, Burdall & Ward Bolt & Nut Co., Port Chester, N. Y.

ROAD and Street Machinery.

Acme Road Mchry. Co., Frankfort, N. Y.

Adams Co., J. D., Indianapolis, Ind.

Austin-Western Road Mchry. Co., Chicago.

Blaw-Knox Co., Pittsburgh, Pa.

Buffalo-Springfield Roller Co., Springfield, O.

Caterpillar Tractor Co., San Leandro, Cal.

Erie Machine Shops, Erie, Pa.

Huber Mfg. Co., The, Marion, Ohio.

Universal Crane Co., Lorain, Ohio.

—and Street Material.

Bituminous Earth Road Corp., Raleigh, N. C.

Borley & Co., W. W., Roanoke, Va.

Kentucky Rock Asphalt Co., Louisville, Ky.

Sloss-Sheffield Steel and Iron Co., Birmingham, Ala.

Truscon Steel Co., Youngstown, O.

Woodstock Slag Corp., Birmingham, Ala.

—Graders and Scrapers.

Acme Road Mchry. Co., Frankfort, N. Y.

Adams Co., J. D., Indianapolis, Ind.

Austin-Western Road Mchry. Co., Chicago.

Caterpillar Tractor Co., San Leandro, Cal.

—Oils and Preservatives.

Gulf Refining Co., Pittsburgh, Pa.

—Reinforcement (Welded Fabric.)

American Steel & Wire Co., Balto., Md.

—Rollers (Steam and Gasoline.)
Acme Road Mchry. Co., Frankfort, N. Y.

Austin-Western Road Mchry. Co., Chicago.

Buffalo-Springfield Roller Co., Springfield, O.

Erie Machine Shops, Erie, Pa.

Huber Mfg. Co., The, Marion, Ohio.

—Rollers (For Concrete Work.)
Macon Concrete Roller Co., Macon, Ga.

—Scarifiers.
Austin-Western Road Mchry. Co., Chicago.

Buffalo-Springfield Roller Co., Springfield, O.

ROOFING (Ready Prepared, Felt, Tar, Asbestos, Asphalt.)

Ambler Asbestos Shingle & Sheathing Co., Ambler, Pa.

Eternit, Inc., St. Louis, Mo.

Johns-Manville Corp., New York, N. Y.

Servicised Premoulded Products, Inc., Chicago, Ill.

—and Siding (Composition.)
Eternit, Inc., St. Louis, Mo.

Johns-Manville Corp., New York, N. Y.

—and Siding (Metal.)
American Rolling Mill Co., Middletown, O.

—(Textile.)

American Krum Scale Co., New York City.

SCHOOLS (Correspondence.)

International Correspondence Schools, Scranton, Pa.

SCOOPS (Hand.)

American Mfg. Co., Chattanooga, Tenn.

—Wheeled.

Riddell Co., W. A., Bucyrus, Ohio.

SCRAPERS (Drag and Wheel.)

Adams Co., J. D., Indianapolis, Ind.
Austin-Western Road Machy. Co., Chicago.
Sauerman Bros., Chicago, Ill.

SCRAP IRON AND STEEL.

Hunts Sons, M. J., Philadelphia, Pa.
Ferry, Burton, Deane Co., Philadelphia.
Smith & Co., W. M., Birmingham, Ala.

SCREENING (For Concrete and Road Construction.)

American Limestone Co., Knoxville, Tenn.

SCREENS (Sand, Gravel, Stone, Coal, Ore, etc.)

Chicago Perforating Co., Chicago, Ill.
Erdie Perforating Co., Rochester, N. Y.
Hendrick Mfg. Co., Carbondale, Pa.

Ludlow Saylor Wire Co., The St. Louis, Mo.

McLanahan-Stone Machine Co., Hollidaysburg, Pa.

Mundt & Sons, Charles, Jersey City, N. J.

Stephens-Adams Mfg. Co., Birmingham, Ala.

Universal Crusher Co., Cedar Rapids, Iowa.

SCREW-Machine Products.

Progressive Mfg. Co., Torrington, Conn.

SCREWS (Machine.)

Progressive Mfg. Co., Torrington, Conn.

SEAWALLS.

Shore-Line Builders, Inc., Jacksonville, Fla.

SEPARATORS (Dust.)

Raymond Bros., Impact Pulv. Co., Chicago.

SEPTIC TANKS.

Kaustine Co., Inc., Perry, N. Y.

SEWAGE Disposal Apparatus.

Kaustine Co., Inc., Perry, N. Y.

Pacific Flush-Tank Co., New York, N. Y.

SEWER Joint Compounds.

Pacific Flush-Tank Co., New York, N. Y.

Servicised Premolded Products, Inc., Chicago, Ill.

—Pipe (Vitrified.)

Bannon Pipe Co., Louisville, Ky.

Cambridge Clay Products Co., Blackfark, O.

Dee Co., Wm. E., Oak Hill, Ohio.

Lee Clay Products Co., Clearfield, Ky.

Owensboro Sewer Pipe Co., Owensboro, Ky.

SEWER PIPE MACHINERY (Concrete.)

Quinn Wire & Iron Works, Boone, Iowa.

SHADES (Offset.)

Hough Shade Corp., Chicago, Ill.

SHAFTING.

Ryerson & Sons, Inc., Jos. T., St. Louis and New York.

—(Cold Rolled.)

Bliss & Laughlin, Inc., Harvey, Ill.

—(Flexible.)

Strand & Co., N. A., Chicago, Ill.

—Material (Tubular.)

National Tube Co., Pittsburgh, Pa.

SHARPENING Stones.

Carborundum Co., Niagara Falls, N. Y.

SHEET Metal Work.

National Blow Pipe & Mfg. Co., Ltd., New Orleans, La.

Skinner Bros. Mfg. Co., St. Louis, Mo.

—Metal Working Machinery.

Bliss Co., E. W., Brooklyn, N. Y.

Whitney Metal Tool Co., Rockford, Ill.

Yoder Co., The, Cleveland, Ohio.

—Steel and Iron.

American Rolling Mill Co., Middletown, O.

American Sheet and Tin Plate Co., Pittsburgh, Pa.

Bethlehem Steel Co., Bethlehem, Pa.

Granite City Steel Co., Granite City, Ill.

Republic Steel Corp., Youngstown, Ohio.

Ryerson & Sons, Inc., Jos. T., St. Louis and New York.

Tennessee Coal, Iron & Railroad Co., Birmingham, Ala.

Youngstown Sheet & Tube Co., Youngstown, O.

SHEETS (Asbestos.)

Ambler Asbestos Shingle & Sheathing Co., Ambler, Pa.

Eternit, Inc., St. Louis, Mo.

—(Steel—Asbestos Covered.)

Roberts Co., H. H., Pittsburgh, Pa.

SHELVING (Unit.)

Lapton's Sons Co., David, Phila., Pa.

SHINGLES (Asbestos.)

Ambler Asbestos Shingle & Sheathing Co., Ambler, Pa.

Eternit, Inc., St. Louis, Mo.

—(Stain.)

Cabot, Inc., Samuel, Boston, Mass.

SHOVELS (Hand.)

American Mfg. Co., Chattanooga, Tenn.

—(Steam, Gas and Electric Power.)

Bucyrus-Erie Co., Erie, Penna.

Harnischfeger Corp., Milwaukee, Wis.

Industrial Brownstein Corp., Cleveland, O.

National Equipment Corp., (Kochring, Insley), Milwaukee, Wis.

Northwest Engineering Co., Chicago, Ill.

Ohio Power Shovel Co., Lima, Ohio.

Thew Shovel Co., The, Lorain, Ohio.

Universal Power Shovel Co., Milwaukee, Wis.

SHUTTERS (Steel.)

Merchant & Evans Co., Philadelphia, Pa.

Peelle Co., The, Brooklyn, N. Y.

—(Steel and Wood Bifolding.)

Klinsner Mfg. Co., The, Columbus, Ohio.

SILICATE OF SODA.

Grasselli Chemical Co., Inc., Birmingham, Ala.

SITES (Manufacturing.)

Alabama Power Co., Birmingham, Ala.

Arkansas Natural Gas Corp., Shreveport, La.

Atlanta and West Point R. R., Atlanta, Ga.

Brown & Co., Chattanooga, Tenn.

Central of Georgia Rwy., Savannah, Ga.

Central Power & Light Co., San Antonio, Tex.

Galveston City of, Galveston, Texas.

Georgia Power Co., Atlanta, Ga.

Jacksonville City of Jacksonville, Florida.

Missouri - Kansas - Texas Lines, Dallas, Texas.

Model Land Company, (Flagler System), St. Augustine, Fla.

Norfolk & Western Railway, Roanoke, Va.

Tennessee Central Railway, Nashville, Tenn.

Texas Power & Light Co., Dallas, Texas.

SKYLIGHTS.

Milnor Steel Co., Milwaukee, Wis.

Robertson Co., H. H., Pittsburgh, Pa.

SLABS (Concrete Floor.)

American Cement Tile Mfg. Co., Pittsburgh, Pa.

—(Concrete Roof.)

American Cement Tile Mfg. Co., Pittsburgh, Pa.

SLAG, For Concrete.

Sloss-Sheffield Steel and Iron Co., Birmingham, Ala.

Woodstock Slag Corp., Birmingham, Ala.

—(Furnace.)

Sloss-Sheffield Steel and Iron Co., Birmingham, Ala.

Woodstock Slag Corp., Birmingham, Ala.

SLINGS (Chain.)

Woodhouse Chain Works, Trenton, N. J.

—(Wire Rope.)

Roebbing's Sons Co., John A., Trenton, N. J.

SLUICE GATES AND APPLIANCES.

Smith Co., S. Morgan, York, Pa.

SNATCH BLOCKS (For Wire and Manila Rope.)

Patterson Co., W. W., Pittsburgh.

SPADES.

American Mfg. Co., Chattanooga, Tenn.

SPEED REDUCERS.

Barle Gear & Mach. Co., Phila., Pa.

Morse Chain Co., Ithaca, N. Y.

Stephens-Adams Mfg. Co., Birmingham, Ala.

SPIKES, (Railroad, Ship.)

Bethlehem Steel Co., Bethlehem, Pa.

Republic Steel Corp., Youngstown, Ohio.

Sweet's Steel Co., Williamsport, Pa.

SPINNINGS (Metal for Aircraft.)

Benson Brass & Chandler Works, Kansas City, Mo.

SPRINGS (Machinery, Railway, Spiral Steel.)

American Steel & Wire Co., Balto., Md.

Raymond Mfg. Co., Corry, Pa.

—(Wire—All Kinds.)

American Steel & Wire Co., Balto., Md.

SPRINKLERS (Automatic Fire.)

Grinnell Co., Inc., Providence, R. I.

SPROCKETS.

Diamond Chain & Mfg. Co., Indianapolis.

Morse Chain Co., Ithaca, N. Y.

STACKS (Iron and Steel.)

Riggs Boiler Works Co., Akron, Ohio.

Chattanooga Boiler & Tank Co., Chattanooga, Tenn.

Chicago Bridge and Iron Works, Atlanta.

Downingtown Iron Wks., Downingtown, Pa.

Hammond Iron Works, Warren, Pa.

Hedges Walsh Weldner Co., Chattanooga, Tenn.

Ingalls Iron Works Co., Birmingham, Ala.

Lombard Iron Works & Supply Co., Augusta, Ga.

Pittsburgh-Des Moines Steel Co., Pittsburgh, Pa.

Schmidt's Sons Co., J. S., Macon, Ga.

U. S. Pipe & Foundry Co., Burlington, N. J.

Virginia Bridge & Iron Co., Roanoke, Va.

STAINS (Shingle, Woodwork.)

Cabot, Inc., Samuel, Boston, Mass.

STAIRS (Spiral.)

Duvigne Spiral Stair Co., Hagerstown, Md.

STAIR Steps (Safety.)

Irving Iron Works Co., Long Is. City, N.Y.

—Treads.

Bates Steel Corp., Walter, Gray, Ind.

Central Iron & Steel Co., Harrisburg, Pa.

STAMPING (Sheet Metal.)

American Pulley Co., Philadelphia, Pa.

—Steel (All Kinds.)

Commercial Shearing & Stamping Co., Youngstown, Ohio.

STANDPIPES.

Chattanooga Boiler & Tank Co., Chattanooga, Tenn.

Chicago Bridge & Iron Works, Atlanta, Ga.

Hammond Iron Works, Warren, Pa.

Pittsburgh-Des Moines Steel Co., Pittsburgh, Pa.

STATIONERS (Envelopes, Letter and Billheads, etc.)

Smith & Son Co., Oscar T., Baltimore, Md.

Young & Seiden Co., Baltimore, Md.

STEAM SHOVELS.

Bucyrus-Erie Co., Erie, Pa.

Thew Shovel Co., The, Lorain, Ohio.

—Specialties.

Jenkins Bros., New York, N. Y.

Lunkenheimer Co., The, Cincinnati, O.

Muelter Co., Decatur, Ill.

—Traps.

Jenkins Bros., New York, N. Y.

STEEL.

Bethlehem Steel Co., Bethlehem, Pa.

Central Iron & Steel Co., Harrisburg, Pa.

Crucible Steel Co., of Amer., New York City.

Dietrich Brothers, Baltimore, Md.

Gulf States Steel Co., Birmingham, Ala.

Republic Steel Corp., Youngstown, Ohio.

Ryerson & Son, Inc., Jos. T., St. Louis and New York.

Tennessee Coal, Iron & Railroad Co., Birmingham, Ala.

Virginia Bridge & Iron Co., Roanoke, Va.

—(Alloy.)

Crucible Steel Co., of Amer., New York City.

Timken Roller Bearing Co., Canton, Ohio.

—(Cold Drawn.)

Bliss & Laughlin, Inc., Harvey, Ill.

—(Cold Rolled.)

American Steel & Wire Co., Balto., Md.

Bliss & Laughlin, Inc., Harvey, Ill.

—(Information Only.)

American Institute of Steel Construction, Inc., New York City.

—(Liners for Sewers, Tunnels and Caissons.)

Commercial Shearing & Stamping Co., Youngstown, O.

—(Special Analysis.)

Timken Roller Bearing Co., Canton, Ohio.

—(Tool, High Speed.)

Bethlehem Steel Co., Bethlehem, Pa.

Crucible Steel Co., of Amer., New York City.

—Buildings (Designers and Builders.)

American Bridge Co., New York, N. Y.

Beimont Iron Works, Philadelphia, Pa.

Braden Steel Corp., Tulsa, Okla.

Butler Mfg. Co., Kansas City, Mo.

Carolina Steel & Iron Co., Greensboro, N. C.

Champion Bridge Co., Wilmington, O.

Eichley, Jr., Co., John, Pittsburgh.

Ingalls Iron Works Co., Birmingham, Ala.

McClintic-Marshall Co., Pittsburgh, Pa.

Phoenix Iron Co., The, Phila., Pa.

Pittsburgh-Des Moines Steel Co., Pittsburgh, Pa.

Richmond Struc. Steel Co., Richmond, Va.

Virginia Bridge & Iron Co., Roanoke, Va.

—Forms (Curb, Gutter, Side-walk, Road.)

Blaw-Knox Co., Pittsburgh, Pa.

—Plate Construction (Riveted or Welded.)

Biggs Boiler Works Co., Akron, Ohio.

Birmingham Boiler & Engr. Co., Birmingham, Ala.

Bristol Steel & Iron Works, Inc., Bristol, Va.

Carolina Steel & Iron Co., Greensboro, N. C.

Central Iron & Steel Co., Harrisburg, Pa.

Chattanooga Boiler & Tank Co., Chattanooga, Tenn.

Chicago Bridge & Iron Works, Atlanta, Ga.

Combustion Engr. Corp., New York City.

Hammond Iron Works, Warren, Pa.

Hedges Walsh Weldner Co., Chattanooga, Tenn.

Ingalls Iron Works Co., Birmingham, Ala.

Mecklenburg Iron Works, Charlotte, N. C.

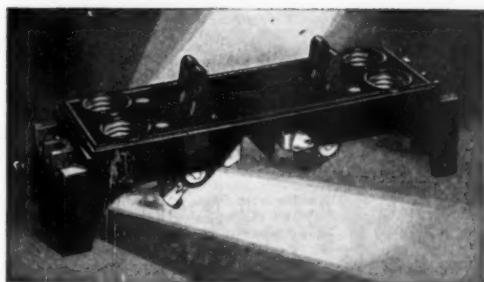
Phoenix Iron Co., The, Phila., Pa.

Pittsburgh-Des Moines Steel Co., Pittsburgh, Pa.

—Tank Heads.

Commercial Shearing & Stamping Co., Youngstown, Ohio.

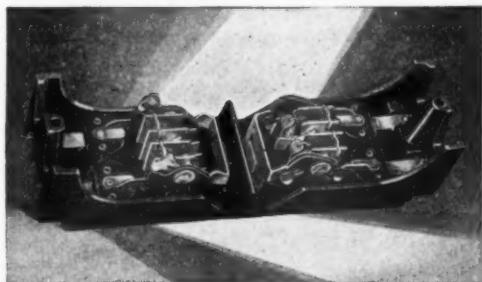
STOKERS (Mechanical.)



The New
 Ⓡ
 Leader Type
 LNTF
 Section

A New Panelboard —typically Ⓡ

Combining
 Ⓡ original
 sectional
 construction
 features with
 great compact-
 ness and
 light weight



SUPPLEMENTING the progressive Ⓡ line of Panelboards comes this new addition, the Ⓡ Leader Type LNTF.

Having originated the sectional type, now universally accepted, Ⓡ considers changing needs and fills them, bettering each wiring job where Ⓡ Panelboards are used.

With all the basic features of the original Ⓡ construction retained this new type Ⓡ Panelboard includes a newly designed one piece, moulded section made of Bakelite, an im-

proved arrangement of bus bar connection and other very practical features. It is narrow and light in weight—making it easier to handle and install. All current carrying parts are molded into or riveted to the back of section.

Write for the new Bulletin No. 50 on Type LNTF. See the Ⓡ man in your territory or write direct about your panelboard and switchboard problems.

Frank Adam
 ELECTRIC COMPANY
 ST. LOUIS

Atlanta, Ga.
 L. A. Crow,
 64 Cone St., N. W.
 Baltimore, Md.
 Wolfe-Mann Mfg. Co.,
 320 S. Hanover St.
 Boston, Mass.
 J. J. Cassidy,
 231 Congress St.
 Buffalo, N. Y.
 Ralph E. Jones,
 1890 Hertel Ave.
 Chicago, Ill.
 Major Equipment Co.,
 Inc.
 4603 Fullerton Ave.
 Cincinnati, Ohio
 E. F. Schurig,
 44 East Third St.
 Dallas, Texas
 R. S. Wakefield,
 1814 Allen Bldg.
 Denver, Colo.
 Alex. Hibbard, Inc.
 1940 Blake St.
 Detroit, Mich.
 H. H. Norton,
 2683 Wabash Ave.
 Orlando, Fla.
 F. W. Knoepfel,
 610 Richmond Ave.

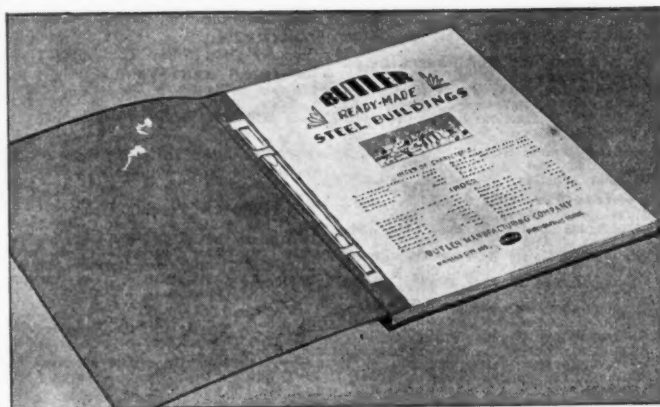
Kansas City, Mo.
 Robert Baker,
 19 E. 14th St.
 Los Angeles, Calif.
 E. Zinsmeyer,
 1127 S. Wall St.
 Memphis, Tenn.
 C. B. Rutledge,
 203 Monroe Ave.
 Minneapolis, Minn.
 Leo. H. Cooper,
 422 Builders' Ex. Bldg.
 New Orleans, La.
 W. J. Keller,
 203 Natchez Bldg.
 Magazine & Natchez Sts.
 New York
 Fred Kraut,
 182 North 11th St.
 Brooklyn
 Omaha, Nebr.
 B. J. Fleming,
 213 S. 12th St.
 Philadelphia, Pa.
 W. A. McAvoy,
 244 North 10th St.
 Pittsburgh, Pa.
 B. Frank Perry, Inc.
 319 Third Ave.
 St. Louis, Mo.
 O. H. Rottman,
 3650 Windsor Place

San Francisco, Calif.
 Lee Van Atta,
 340 Fremont St.
 Seattle, Wash.
 Metropolitan Elec. Co.,
 2914 First Ave., S.
 Tulsa, Okla.
 P. E. Ebersole,
 214 S. Victor St.
 Toronto, Can.
 Amalgamated Elec.
 Co., Ltd.
 Gen. Sales Office,
 370 Pape Ave.,
 11 Charlotte St.
 Vancouver, Can.
 Amalgamated Elec.
 Co., Ltd.
 Granville Island
 Winnipeg, Man., Can.
 Amalgamated Elec.
 Co., Ltd.
 677 Notre Dame Ave.
 Hamilton, Ont.
 Amalgamated Elec.
 Co., Ltd.
 57 John St., N.
 Montreal, Can.
 Amalgamated Elec.
 Co., Ltd.
 1006 Mountain St.

IF YOUR Requirements Call For Such Characteristics As Economy of Acquiring, of Installation, of Maintenance, Complete Materials, Simple and Speedy Erection, Finished Appearance and Structural Qualities Which Make For Permanence, Yet Which Permit Enlarging, Taking Down and Re-erecting . . . THEN



The Answer to Your Sheltering Problem is in this **NEW**
64 PAGE
 LOOSE-LEAF **BOOK**



INDEX OF INSTALLATIONS PICTURED

INDEX OF CHARACTERISTICS

	Pages
Standardized Unit Design	2
Adaptability	3
Installation	4, 5, 6, 7, 8
Structural Strength	6, 7, 8, 57, 58, 59
Fire Safeness	55, 56
Insulation	11, 12, 63
Steel and Brick	11, 14, 40, 41, 44
Steel and Stucco	24, 39, 44
Completeness	6, 7, 8, 57, 58, 59, 60, 61, 62, 63
Ventilation	60, 63
Windows	60, 61
Doors	61, 62
Gable Ends	58
One-piece Ridge	58
One-piece Corners	57
Roof and Side-wall Strength	57, 58, 59

Airplane Hangars (commercial and individual)	
Artillery Buildings	
Bungalows	
Bus and Truck Garages	
Commissary Buildings	
Cottages	
Cotton Gin and Mill Buildings	
Dwellings	
Factory Buildings	
Farm Storage Buildings	
Fruit Stands	
Garages	
Hotels, Bunk and Mess Halls	
Laboratory Buildings	
Lunch Stands	
Machine Shop Buildings	
Machinery Shelters	
Mining Buildings	
Motor Car Laundry	
Offices, Field	
Oil Field Buildings	
Oil Field Flowing Plants	
Oil Station Buildings (bulk)	
Oil Station Buildings (service)	
Outdoor Comfort Station	
Parking Station Buildings	
Power Plant Buildings	
Railway Buildings	
Refineries	
Sewage Disposal	
Store Buildings	
Summer Homes	
Supply Depots	
Warehouse Buildings	
Warehouse (distributing)	

Requests From Officials Bring It With Our Compliments

BUTLER MANUFACTURING COMPANY

1238 Eastern Ave.
 Kansas City, Mo.

938 Sixth Ave., S. E.
 Minneapolis, Minn.



Send the new book together with price information on steel buildings for the purposes checked above.

Firm Name _____

By _____ Title _____

Address _____

TANKS (Air Compressor.)

Air-Tight Steel Tank Co., Pittsburgh, Pa.
Sealife & Sons, Wm. B., Oakmont, Pa.
Titusville Iron Works Co., Titusville, Pa.

—(Elevated Steel.)

Caldwell Co., Inc., W. E., Louisville, Ky.
Chattanooga Boiler & Tank Co., Chattanooga, Tenn.
Chicago Bridge & Iron Works, Atlanta, Ga.
Cole Mfg. Co., R. D., Newnan, Ga.
Pittsburgh-Des Moines Steel Co., Pittsburgh, Pa.
Schofield's Sons Co., J. S., Macon, Ga.
Virginia Bridge & Iron Co., Roanoke, Va.

—(Elevated Wood.)

Caldwell Co., Inc., W. E., Louisville, Ky.
Davis & Son, G. M., Palatka, Fla.
Woolford Wood Tank Mfg. Co., G., Paschall P. O., Philadelphia.

—(Iron and Steel.)

Air-Tight Steel Tank Co., Pittsburgh, Pa.
American Bridge Co., New York, N. Y.
Biggs Boiler Works, Akron, Ohio.
Birmingham Boiler & Eng'g. Co., Birmingham, Ala.
Chattanooga Boiler & Tank Co., Chattanooga, Tenn.
Chicago Bridge & Iron Works, Atlanta, Ga.
Cole Mfg. Co., R. D., Newnan, Ga.
Downingtown Iron Works, Downingtown, Pa.
Hammond Iron Works, Warren, Pa.
Lombard Iron Works & Supply Co., Augusta, Ga.
McClintic-Marshall Co., Pittsburgh, Pa.
Mecklenburg Iron Works, Charlotte, N. C.
Pittsburgh-Des Moines Steel Co., Pittsburgh, Pa.
Sealife & Sons, Wm. B., Oakmont, Pa.
Schofield's Sons Co., J. S., Macon, Ga.
Titusville Iron Works Co., Titusville, Pa.
Virginia Bridge & Iron Co., Roanoke, Va.
Westinghouse Traction Brake Co., Wilmerding, Pa.

—(Seamless Steel.)

Jennett, Jr., Jas. A., Phila., Pa.
National Tube Co., Pittsburgh, Pa.

—(Storage, Oil, etc.)

Biggs Boiler Works, Akron, Ohio.
Birmingham Boiler & Eng'g. Co., Birmingham, Ala.
Chattanooga Boiler & Tank Co., Chattanooga, Tenn.
Chicago Bridge & Iron Works, Atlanta, Ga.
Downingtown Iron Works, Downingtown, Pa.
Hammond Iron Works, Warren, Pa.
Ingalls Iron Works Co., Birmingham, Ala.
Mecklenburg Iron Works, Charlotte, N. C.
Pittsburgh-Des Moines Steel Co., Pittsburgh, Pa.
Titusville Iron Works Co., Titusville, Pa.

—(Wood.)

Caldwell Co., Inc., W. E., Louisville, Ky.
Davis & Son, G. M., Palatka, Fla.
Virginia Mch'y. & Well Co., Richmond, Va.
Woolford Wood Tank Mfg. Co., G., Paschall P. O., Philadelphia.

—(Wood Pickling.)

Woolford Wood Tank Mfg. Co., G., Paschall P. O., Philadelphia.

TAPE (Insulating.)

Okonite Co., New York, N. Y.

—(Measuring.)

Lufkin Rule Co., Saginaw, Mich.

TAX SPECIALISTS.

Ernst & Ernst, New York, N. Y.
Harrison, Wm. Henry, Washington, D. C.
Le Baron, Ernest T., Jacksonville, Fla.

TELEPHONE SERVICE.

American Telephone & Telegraph Co.

TERRA COTTA (Ornamental.)

Atlanta Terra Cotta Co., Atlanta, Ga.

TEXTILE CHEMICALS.

Grasselli Chemical Co., Inc., Birmingham, Ala.

TILE (Cement Roofing.)

American Cement Tile Mfg. Co., Pittsburgh, Pa.

—(Cork Composition.)

Congoleum-Nairn, Inc., Kearny, N. J.

—(Cork Flooring.)

Congoleum-Nairn, Inc., Kearny, N. J.

—(Floor.)

Hood Co., B. Mifflin, Daisy, Tenn.

—(Hollow Building.)

Cambridge Clay Products Co., Blackfork, Ohio.

—(Roof.)

Hood Co., B. Mifflin, Daisy, Tenn.

—(Rubber.)

Congoleum-Nairn, Inc., Kearny, N. J.

—(Sewer.)

Lee Clay Products Co., Clearfield, Ky.

TIMBER Fittings.

Duplex Hanger Co., Cleveland, Ohio.

—(Creosoted.)

Amer. Creosote Wks., Inc., New Orleans.
Amer. Creosoting Co., Inc., Louisville, Ky.
Carolina Wood Preserving Co., Charleston, S. C.

TIME Recorders.

Kaiser Klock Co., L. E., Baltimore, Md.

TIN AND TERNE PLATES.

American Sheet & Tin Plate Co., Pittsburgh, Pa.
Bethlehem Steel Co., Bethlehem, Pa.
Granite City Steel Co., Granite City, Ill.
Youngstown Sheet & Tube Co., Youngstown, Ohio.

TOBACCO MACHINERY.

Ripley Foundry & Machine Co., Ripley, O.

TOILET TISSUE.

Victoria Paper Mills Co., Fulton, N. Y.

TOOLS (Measuring.)

Lufkin Rule Co., Saginaw, Mich.

—(Woodworking—Portable.)

Electric, Hand.)
Wappat, Incorporated, Pittsburgh, Pa.

TORCHES (Blow.)

Wall Mfg. Supply Co., P., Pittsburgh, Pa.

—(Kerosene.)

St. Paul Welding & Mfg. Co., St. Paul, Minn.

TOWERS (Electric Transmission.)

American Bridge Co., New York, N. Y.
Bates Steel Corp., Walter, Gray, Ind.
Bessemer Galvanizing Works, Birmingham.
Nashville Bridge Co., Nashville, Tenn.

—(Radio.)

Bessemer Galv. Wks., Birmingham, Ala.

—(Steel and Wood.)

Chattanooga Boiler & Tank Co., Chattanooga, Tenn.

Cole Mfg. Co., R. D., Newnan, Ga.

TRACK (Portable or Permanent.)

Sweet's Steel Co., Williamsport, Pa.

TRACTORS (Industrial.)

Atlas Car & Mfg. Co., The, Cleveland, O.
Caterpillar Tractor Co., San Leandro, Cal.
Clark Tractor Co., Battle Creek, Mich.
Cleveland Tractor Co., Cleveland, Ohio.
International Harvester Co., of America, Inc., Chicago, Ill.

—(Road.)

Caterpillar Tractor Co., San Leandro, Cal.
Cleveland Tractor Co., Cleveland, Ohio.

—Attachments (Slide Boom.)

W-K-M Co., Inc., Houston, Texas.

TRAILERS. (Four Wheel.)

Electric Wheel Co., Quincy, Ill.

—(Heavy Duty.)

Electric Wheel Co., Quincy, Ill.

—(Industrial.)

Easton Car & Construction Co., Easton, Pa.

Electric Wheel Co., Quincy, Ill.

—(Pole.)

Electric Wheel Co., Quincy, Ill.

TRAMWAYS (Aerial Wire Rope.)

American Steel & Wire Co., Balto., Md.
Broderick & Bascom Rope Co., St. Louis.
Lechen & Sons Rope Co., A., St. Louis.

TRANSFORMERS.

General Electric Co., Schenectady, N. Y.
Westinghouse Elec. & Mfg. Co., E. Pittsburgh, Pa.

—(Used.)

Electric Service Co., Cincinnati, Ohio.

TRANSMISSION TOWERS (Galvanized.)

Bates Steel Corp., Walter, Gray, Ind.
Bessemer Galvanizing Works, Birmingham.
McClintic-Marshall Co., Pittsburgh, Pa.

TRENCH MACHINERY. See

Excavators (Trench.)

TRESTLES (Wooden.)

Patent Scaffolding Co., Chicago, Ill.

TRI-SODIUM PHOSPHATE.

Grasselli Chemical Co., Inc., Birmingham, Ala.

TROLLEY WHEELS (Self Oiling.)

Moccasin Bushing Co., Chattanooga, Tenn.

TRUCK CRANES.

Universal Crane Co., Lorain, O.

TRUCKS (Dry Kln.)

Moore Dry Kln Co., Jacksonville, Fla.

—(Industrial.)

Atlas Car & Mfg. Co., The, Cleveland, O.

Lansing Co., Lansing, Mich.
Nutting Truck Co., Chicago, Ill.
Service Caster & Truck Co., Albion, Mich.

—(Motor.)

International Harvester Co., of America, Inc., Chicago, Ill.

—(Platform, Freight, Mill, Factory, etc.)

American Pulley Co., Philadelphia, Pa.
Clark Tractor Co., Battle Creek, Mich.
Electric Wheel Co., Quincy, Ill.
Nutting Truck Co., Chicago, Ill.
Service Caster & Truck Co., Albion, Mich.
Truscon Steel Co., (Pressed Steel Division) Cleveland, Ohio.

—(Steel Shop.)

Angle Steel Stool Co., Plainwell, Mich.

TUBES (Boiler.) See Boiler

Tubes.

TUBING (Metal.)

Boiler Tube Co., of America, Pittsburgh.

—(Seamless Steel.)

National Tube Co., Pittsburgh, Pa.
Timken Rolling Bearing Co., Canton, O.

TURBINES (Hydraulic.)

Cook, Inc., A. D., Lawrenceburg, Ind.
Davis Foundry & Mach. Works, Rome, Ga.
Leffel & Co., The, James, Springfield, O.
Smith Co., S. Morgan, York, Pa.

—(Steam.)

Allis-Chalmers Mfg. Co., Milwaukee, Wis.
DeLaval Steam Turbine Co., Trenton, N. J.
General Electric Co., Schenectady, N. Y.
Westinghouse Elec. & Mfg. Co., E. Pittsburgh, Pa.

TURNBUCKLES.

Russell, Burdall & Ward Bolt & Nut Co., Port Chester, N. Y.

TUENTABLES.

American Bridge Co., New York, N. Y.
Easton Car & Construction Co., Easton, Pa.
Virginia Bridge & Iron Co., Roanoke, Va.
—(Portable for Motor Trucks.)
Blaw-Knox Co., Pittsburgh, Pa.

UNIONS.

Dart Mfg. Co., E. M., Providence, R. I.

UNIT HEATERS.

Grinnell Co., Inc., Providence, R. I.

Skinner Bros., Mfg. Co., St. Louis, Mo.

VALVES.

Jenkins Bros., New York, N. Y.
Ludlow Valve Mfg. Co., The, Troy, N. Y.
Lunkheimer Co., The, Cincinnati, Ohio.
Merco Nordstrom Valve Co., San Francisco, Cal.
Mueller Co., Decatur, Ill.
Vogt Brothers Mfg. Co., Louisville, Ky.
Vogt Machine Co., Henry, Louisville, Ky.
Westinghouse Traction Brake Co., Wilmerding, Pa.

—(Acid Proof.)

Lunkheimer Co., The, Cincinnati, O.

—(Gate.)

Ludlow Valve Mfg. Co., The, Troy, N. Y.

Lunkheimer Co., The, Cincinnati, Ohio.
Wood & Co., R. D., Philadelphia, Pa.

VENTILATING SYSTEMS.

Skinner Bros. Mfg. Co., St. Louis, Mo.

Swartwout Co., Cleveland, Ohio.

VENTILATORS (Roof.)

Merchant & Evans Co., Philadelphia, Pa.
Milcor Steel Co., Milwaukee, Wis.
Robertson Co., E. H., Pittsburgh, Pa.

—(Rotary.)

Swartwout Co., Cleveland, Ohio.

WALL HANGERS.

Duplex Hanger Co., Cleveland, Ohio.

WARDROBES (Hygienic, School.)

Wilson Corp., The, J. G., New York.

WATCHMAN'S PORTABLE

CLOCKS.

Davis-Paradis Watchman's Clock Corp., New York, N. Y.

Kaiser Klock Co., L. E., Balto., Md.

WATERPROOFING (For Brick, Concrete, Granite.)

Asphalt Products Co., Syracuse, N. Y.
Foster Co., Benjamin, Philadelphia, Pa.
Servicised Premoulded Products, Inc., Chicago, Ill.
Sonneborn, Sons, Inc., L., New York.

WATER Purification.

Roberts Filter Mfg. Co., Darby (Phila.), Pa.

Sealife & Sons, Wm. B., Oakmont, Pa.

—Softening Apparatus (Purify- ing.)

American Water Softener Co., Phila., Pa.
International Filter Co., Chicago, Ill.

—Works Supplies and Appliances.

Amer. Cast Iron Pipe Co., Birmingham.
Cast Iron Pipe Research Assn., Chicago.

Cook, Inc., A. D., Lawrenceburg, Ind.
Glamorgan Pipe & Fdry. Co., Lynchburg, Va.

Leadite Co., The, Philadelphia, Pa.

Muesler Co., Decatur, Ill.

U. S. Pipe & Foundry Co., Burlington, N. J.

Wood & Co., R. D., Philadelphia, Pa.

WELDING APPARATUS (Elec- tric Arc.)

General Electric Co., Schenectady, N. Y.
Westinghouse Elec. & Mfg. Co., E. Pittsburgh, Pa.

—Apparatus (Oxy-Acetylene.)

St. Paul Welding & Mfg. Co., St. Paul, Minn.

WELL CONTRACTORS (Oil, Artesian, etc.)

Virginia Machy. & Well Co., Richmond, Va.

WHEELBARROWS.

Lansing Co., Lansing, Mich.

Sterling Wheelbarrow Co., Milwaukee.

WHEELS AND AXLES.

Carnegie Steel Co., Pittsburgh, Pa.

WINCHES.

Sagen Derrick Co., Chicago, Ill.

Schultz & Son, A. L., Chicago, Ill.

WINDOW Frames and Sash (Metal.)

Bayley Co., The, William, Springfield, O.

Lupton's Sons Co., David, Phila., Pa.

Truscon Steel Co., Youngstown, O.

WINDOWS (Bronze Casement.)

Michael's Art Bronze Co., Covington, Ky.

—(Steel Basement, Casement.)

Bayley Co., The, William, Springfield, O.

Detroit Steel Products Co., Detroit, Mich.

Lupton's Sons Co., David, Phila., Pa.

—(Steel Garage.)

Detroit Steel Products Co., Detroit, Mich.

Lupton's Sons Co., David, Phila., Pa.

—(Steel Pivoted, Screened.)

Bayley Co., William, Springfield, O.

—(Ventilating.)

Bayley Co., The, William, Springfield, O.

Detroit Steel Products Co., Detroit, Mich.

Lupton's Sons Co., David, Phila., Pa.

WIRE (All Kinds.)

American Steel & Wire Co., Chicago.

Roebbing's Sons Co., John A., Trenton, N. J.

Ryan & Son, Inc., Jos. T., St. Louis and New York.

—(Barbed Wire, etc.)

American Steel & Wire Co., Balto., Md.

Gulf States Steel Co., Birmingham, Ala.

Youngstown Sheet & Tube Co., Youngstown, Ohio.

—(Fence.)

Anchor Post Fence Co., Baltimore, Md.

Cyclone Fence Co., Waukegan, Ill.

Gulf States Steel Co., Birmingham, Ala.

Page Fence Association, Chicago, Ill.

—(Flat and Round.)

American Steel & Wire Co., Balto., Md.

Galvanized and Annealed.)

American Steel & Wire Co., Balto., Md.

Gulf States Steel Co., Birmingham, Ala.

—(Telephone and Telegraph.)

American Steel & Wire Co., Balto., Md.

—(Welding.)

American Steel & Wire Co., Chicago, Ill.

Roebbing's Sons Co., John A., Trenton, N. J.

—Cloth (Iron, Steel, Copper, Brass, etc.)

Harrington & King Perf. Co., Chicago.

Ludlow Saylor Wire Co., The, St. Louis, Mo.

—Goods.

Cyclone Fence Co., Waukegan, Ill.

Dufur, Baggett & Co., Baltimore, Md.

—Netting.

Ludlow Saylor Wire Co., The, St. Louis, Mo.

—Rope (Transmission, Hoist- ing, Haulage.)

American Steel & Wire Co., Chicago, Ill.

The Reason Why **Blaw-Knox Buckets OUTDIG**

The WHY of digging power in a Blaw-Knox Bucket is easy to understand.

1st — The preponderance of weight is in the scoops, where it belongs.

2nd — Blaw-Knox Buckets close easily, requiring less pull on the closing line due to (a) elimination of friction through the use of ball bearings (b) greater cable overhaulage with but few sheaves.

3rd — Blaw-Knox Buckets penetrate easily because they are equipped with sharp cutting lips which are tempered to resist abrasion.

After you use an improved Blaw-Knox Dreadnaught Bucket, you will revise your opinion as to how small an item bucket maintenance can become.

BLAW-KNOX COMPANY

2024 Farmers Bank Bldg., Pittsburgh, Pa.

New York
Chicago
Boston

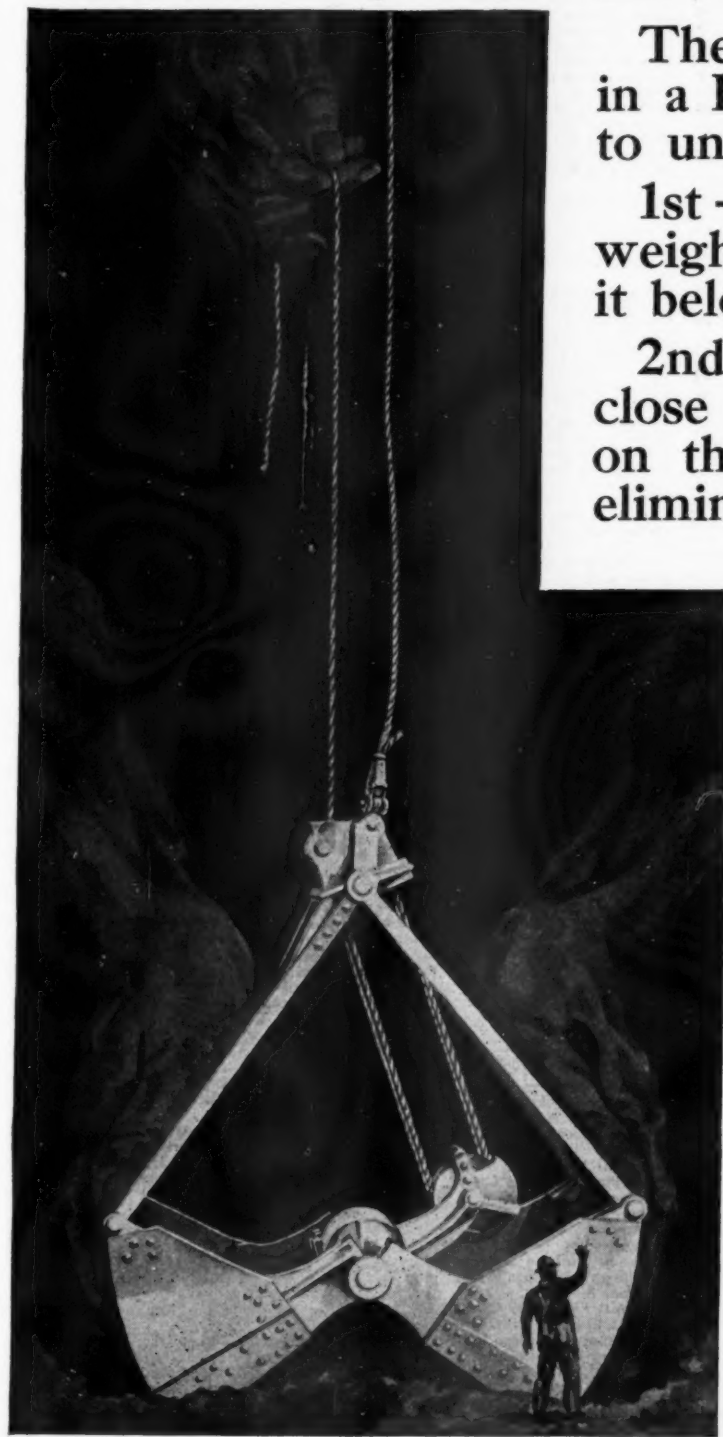
Philadelphia
Birmingham
Buffalo

Cleveland
Detroit
Baltimore

Export Division:

Blaw-Knox International Corporation,
Canadian Pacific Bldg., New York

London, England, New Oxford House, Hart St., Holborn,
W. C. I.—Paris, France, 1 Rue de Clichy—Milano, Italy,
6, via S. Agnese, 6—Dusseldorf, Germany, 17 Bismarckstrasse



BLAW-KNOX

Alphabetical Index of Advertisements

A

A-471.	98
Abendroth & Root Mfg. Co.	21
Acme Road Machinery Co.	108
Acme Steel Engineering Co.	98
Adam Electric Co., Frank.	123
Adams Co., J. D.	30
Airmap Corp. of America.	34
Air-Tight Steel Tank Co.	30
Akers, William	59
Alabama Clay Products Co.	119
Alabama Power Co.	30
Albert & Davidson Pipe Corp.	100
Albert Pipe Supply Co.	100
Alemite Corporation	100
Allen-Sherman-Hoff Co.	29
Allis-Chalmers Mfg. Co.	29
Alpaugh & Sons, Chas. W.	35
Alpha Portland Cement Corp.	105
Aluminum Co. of America.	113
Ambler Asbestos Shingle & Sheathing Co.	1
American Appraisal Co.	130
American Bridge Co.	26
American Cast Iron Pipe Co.	22
American Cement Tile Mfg. Co.	22
American Crockett Works.	24
American Crowing Co.	24
American Elevator & Machine Co.	26
American Gas Association.	1
American Institute of Steel Construction, Inc.	1
American Kron Scale Co.	1
American Limestone Co.	106
American Manufacturing Co.	1
American Pipe Bending Machine Co.	108
American Pressed Steel Co.	108
American Process Co.	106
American Pulley Co.	1
American Rolling Mill Co.	1
American Sheet & Tin Plate Co.	12
American Steel & Wire Co.	12
American Steel Dredge Co.	104
American Telephone & Telegraph Co.	1
American Water Softener Co.	119
American Well Works.	1
Anchor Post Fence Co.	1
Andrews Co., A. H.	26
Angle-Blackford Co.	35
Angle Steel Stool Co.	20
Arkansas Natural Gas Corp.	1
Armco Culvert Mfrs. Asso.	1
Arundel Corporation	106
Asphalt Products Company.	1
Atkins & Co., E. C.	1
Atlanta & West Point R. R.	1
Atlanta Terra Cotta Co.	23
Atlantic Bridge Co.	19
Atlantic Croasting Co.	24
Atlantic, Gulf & Pacific Co.	104
Atlas Car and Manufacturing Co.	102
Austin Machinery Corp.	1
Austin-Western Road Machy. Co.	109
Ayer & Lord Tie Co.	1

B

Habecock & Wilcox Co.	8
Baltimore Commercial Bank	89
Bank of Alabama	†
Bank of New York & Trust Co.	†
Bannon Pipe Co.	26
Barber-Greene Co.	107
Barrow-Agee Laboratories	35
Barrows, H. K.	34
Barstow & Co., Inc., W. S.	37
Bates Steel Corp., Walter	20
Betty & Kipp	35
Bay City Shovels, Inc.	104
Bayley Co., Wm.	†
Belmont Iron Works	18
Belyea Co., Inc.	†
Benson Brass & Chandelier Works	†
Bessmer Galvanizing Works	†
Bethlehem Steel Co.	18
Biggs Boiler Wks. Co.	8
Biggs Engineering Co., W. E.	34
Billingley, James W.	35
Binswanger & Co.	20
Birmingham Boiler & Engr. Co.	†
Birmingham Galvanizing Co.	13
Birmingham Rail & Loco. Co.	101
Birmingham Tank Co.	†
Bituminous Earth Road Corp.	†
Blair, Algernon	34
Blaw-Knox Co.	127
Bliss & Laughlin, Inc.	†
Bliss Co., E. W.	†
Blue Ridge Glass Co.	21
Blystone Mfg. Co.	†
Boiler Tube Co. of America	†

Bond, Geo. Harwell	34
Boxley & Co., W. W	106
Braden Steel Corp.	?
Bristol Steel & Iron Works, Inc.	18
Broderick & Bascom Rope Co.	?
Brown & Co.	?
Brown Wood Preserving Co.	?
Buckeye Traction Ditcher Co.	?
Bucyrus-Erie Co.	104
Buffalo-Springfield Roller Co.	108
Butler Manufacturing Co.	125
Byllesby Engineering & Management Corp.	35

C

Cabot, Inc., Samuel.	24
Cahill Co., W. S.	92
Caldwell Co., W. E.	13
Calligan & Co., A. H.	*
Cambria Clay Products Co.	26
Cameron Steam Pump Works, A. S. (Ingersoll-Rand Co.)	+
Carborundum Co.	+
Carnegie Steel Co.	14
Carolina Steel & Iron Co.	18
Carolina Wood Preserving Co.	+
Cast Iron Pipe Research Assn.	27
Caterpillar Tractor Co.	111
Cattie & Bros., Joseph P.	13
Cement-Gun Co.	26
Cement Gun Constr. Co.	33
Central Foundry Co.	26
Central Iron & Steel Co.	108
Central of Georgia Rwy.	38
Central Pipe & Supply Co.	100
Central Power & Light Co.	+
Chain Belt Co.	+
Champion Bridge Co.	19
Charleston Constructors, Inc.	35
Charleston Dry Dock & Mch. Co.	8
Charlton & Davis	26
Charlotte Leather Belting Co.	26
Chase Brass & Copper Co.	34
Chase, William J. J.	34
Chattanooga Boiler & Tank Co.	30
Chicago Bridge & Iron Works.	30
Chicago Perforating Co.	33
Chicago Pneumatic Tool Co.	+
Christian Co., J. R.	+
Clark Tractor Co.	96-97
Classified Opportunities	+
Cleveland Tractor Co.	+
Clow & Sons, James B.	+
Clyde Iron Works Sales Co.	103
Cohen, Chas. F.	+
Cole Mfg. Co., R. D.	30
Colonial Creosoting Co.	+
Combustion Engineering Corp.	+
Commercial Shearing & Stamping Co.	+
Conard & Busby	35
Congoleum-Nairn, Inc.	91
Connors Steel Co.	+
Consoer, Older & Quinlan	34
Continental Gin Co.	119
Converse & Co., J. B.	35
Converse Bridge & Steel Co.	19
Cook, Inc., A. D.	29
Cooper & Co., Hugh L.	34
Copper & Brass Research Assn.	+
Cornell-Young Co.	36
Corporation Service Co.	89
Cowper Co., John W.	35
Crawbuck Co., John D.	*
Crucible Steel Casting Co.	13
Crucible Steel Co. of America	+
Curtin-Howe Corp.	+
Cutler Mail Chute Co.	22
Cyclone Fence Co.	+

D

Dake Engine Co.	119
Dame-Wolfe & Co.	36
Dart Mfg. Co., E. M.	8
Davis & Son, G. M.	32
Davis Foundry & Machine Works	29
Davis-Paradis Watchman's Clock Corp.	†
Davison Chemical Co.	33
Day Pulverizer Co.	33
Dayton Safety Ladder Co.	†
Dee Co., Wm. E.	†
Deemer Steel Casting Co.	13
DeKalb, Courtenay	36
DeLaVal Steam Turbine Co.	†
Delaware Registration Trust Co.	†
Delaware Wood Preserving Co.	24
Delta Equipment Co.	98
Dempster Equip. Co.	101
Detroit Steel Products Co.	†

Diamond Chain & Mfg. Co.	.....
Dietrich Brothers	.....	2
Dixie Culvert & Metal Co.	.....
Dixie Culvert Mfrs. Assn.	.....
Dixie Electro-Plating Co.	.....	3
Dixon Crucible Co., Jos.	.....
Dow & Smith	.....	3
Doungton Iron Works	.....
Draper, E. S.	.....	3
Dufur, Baggott & Co.	.....	2
Dunning & Boschert Press Co.	.....
Dunn Mfg. Co., Wm. E.	.....
Duplex Hanger Co.	.....
DuPont de Nemours & Co., E. I.	.....
Duvigne Spiral Stair Co.	.....

E

Earle Gear & Machine Co.	18
Easton Car & Constr. Co.	102
Edelblute Co., T. H.	32
Eichleay, Jr., C. John	32
Electric Bond & Share Co.	81
Electric Service Co.	99
Electric Storage Battery Co.	104
Electric Wheel Co.	108
Ellicott Machine Corp.	104
Elphinstone, D. C.	101
Engineering Service Corp.	34
Eppinger & Russell Co.	3
Equipment Corp. of America	3
Equipment Sales Co.	3
Equitable Trust Co.	3
Erdle Perforating Co.	33
Erie Machine Shops	108
Erie Pump & Engine Works	3
Ernst & Ernst	3
Eternit, Inc.	3
Evans Elevator Equalizer Co.	3
Excavating Equipment Dealers	101

F

Fairbanks, Morse & Co.	69
Fay, Spofford & Thorndike	35
Fernalds Machinery Co.	25
First & Merchants Nat'l Bank of Richmond	3
Fiske-Carriger Const. Co	53
Flood & Co., Walter H.	36
Floyd & Lochridge	36
Ford, Bacon & Davis	36
Foster Co., Benjamin	23
Frank, M. K.	101
Freeland, Roberts & Co.	34
Friend & Co.	106
Fruehling & Robertson	36
Fuller & McClintock	34
Fuller Lehigh Co.	36

G

Galveston, Texas, City of	1
Galveston Wharf Co.	1
Gardner & Howe	34
Garraway & Co., S. G.	85
Gay & Co., W. O.	85
General Electric Co.	1
General Electric Vapor Lamp Co.	1
General Machine Works	1
Georgia Creosoting Co.	29
Georgia Iron Works	29
Georgia Marble Co.	29
Georgia Power Co.	29
Georgetown, S. C., City of	106
Glamorgan Pipe & Fdry. Co.	26
Goldens Foundry & Machine Co.	13
Gomes & Co., P. L.	33
Granite City Steel Co.	33
Grasselli Chemical Co.	1
Greenpoint Iron & Pipe Co.	106
Gregory Electric Co.	99
Greiner & Co., J. E.	34
Gridley Constr. Co., Lee A.	34
Grinnell Co., Inc.	1
Gulf Refining Co.	106
Gulf States Creosoting Co.	24
Gulf States Steel Co.	14
Gunite Concrete & Constr. Co.	14
Gunite Construction Co.	14

H

Haas Pattern Co., A. W.	13
Hammond Iron Works.	31
Hanchett Bond Co.	9
Harbison-Walker Refractories Co.	116
Hardaway Contracting Co.	34

Harnischfeger Corp.	6-104
Harrington Co.	6
Harrington & King Perforating Co.	†
Harrison, Wm. Henry	35
Harrub Engr. Co., C. N.	34
Harsa Engineering Co.	34
Hayward Co.	10
Heath Co., J. S.	†
Hedges, J. & Weidner Co.	8
Hedrick, Ira G.	34
Heokick Engineering Corp.	†
Heiss, Hotel System	88
Hendrick Mfg. Co.	33
Hercules Powder Co.	†
Herty, Chas. H.	†
Hill & Griffith Co.	31
Hills Co., George B.	34
Hires Turner Glass Co.	†
Hitners' Sons, Henry	†
Hobbs, Inc., Lewter F.	101
Hollowell, Gorham & Co.	46
Holt Hardwood Co.	24
Honhorst Co., Jos.	†
Hood Co., B. Miffin.	†
Hoosier Engineering Co.	35
Hornbuckle Contracting Co.	34
Hough Shade Corporation	†
Howell Electric Motors Co.	4
Howerton Engineering Co.	34
Huber Mfg. Co.	108
Hudson Pipe & Supply Co.	†
Huey, S. E.	34
Hunt Co., Robert W.	36
Hunt's Sons, M. J.	†
Hutto Engineering Co.	†
Hyatt Roller Bearing Co.	13

1

Industrial Brownhoist Corp	†
Industrial Electrical Co.....	35
Industrial Lumber Co.....	24
Ingalls Iron Works Co.....	19
Ingersoll-Rand Co. (A. S. Cameron Steam Pump Works)	†
International Correspondence School	†
International Filter Co.....	119
International Harvester Co. of America.....	†
Inter-State Fdry. & Machine Works Inc.....	†
Invicta Engineering Co.....	34
Irvine Iron Works Co.....	†
I. T. E. Circuit Breaker Co	†

J

Jacksonville, Fla., City of	†
Jaeger Machine Co.....	†
Janney, Jr., Jos. A.....	30
Jenkins Bros.....	‡
Jennings & Co., Flovd.....	35
John-Manville Corp.....	†
Johnson & Hoehler.....	101

K

Kaiser Klock Co., L. E.	22
Kansas City Bridge Co.	34
Kaustine Co.	36
Kentucky Rock Asphalt Co., Inc. .	2
Kerlow Steel Flooring Co.	20
Keystone Pump & Drill Co.	29
Kinnear Manufacturing Co.	117
Kirbye & Co.	34
Kirby Lumber Co.	2
Knowles, Morris, Inc.	34
Knoxville Iron Co.	20
Koppel Industrial Car & Equip. Co.	102

L

Lacey Co., James D.	34
Lansing Co.	104
Law & Co., A. M.	69
Layne & Bowler, Inc.	1
Leditte Co.	42
Le Baron, E. T.	35
Lee Clay Products Co.	*
Lee Trailer & Body Co., Inc.	*
Lee, William S.	34
Lefel & Co., James	*
Lehigh Portland Cement Co.	*
Leschen & Sons Rope Co., A.	42
Levi & Co., Henry	*
Lidgeway, Mfg. Co.	102
Light Manufacturing & Foundry Co.	119
Lindley, Claude H.	34
Lockwood Greene, Engrs., Inc.	36
Lombard Iron Works & Supply Co.	8
Louisiana Corr. Culvert Co.	*
Louisville Cement Co.	*

Ludlow Engineers.....
 Ludlow-Saylor Wire Co.....
 Ludlow Valve Mfg. Co.....
 Lufkin Rule Co.....
 Luitwieler Pumping Engine Co.....
 Lunkensheimer Co.....
 Lupton's Sons Co., David.....

M

MacElwee & Crandall, Inc.....
 Macon Concrete Roller Co.....
 Mahon Co., R. C.....
 Main, Chas. T.....
 Manhattan Perf. Metal Co.....
 Manitowish Iron Works Co.....
 Marine Metal & Supply Co.....
 Marx & Co.....
 Maryland Metal Bldg. Co.....
 Maryland Pipe & Steel Corp.....
 Maryland Trust Co.....
 McClintic-Marshall Co.....
 McCrady Co., John.....
 McCrady Co., J. B.....
 McEverlast, Inc.....
 McLanahan and Stone Mch. Co.....
 Mecklenburg Iron Works.....
 Mees & Mees.....
 Meigs, Bassett & Slaughter.....
 Mercantile Trust Co.....
 Merchant & Evans Co.....
 Meroe Nordstrom Valve Co.....
 Michaels Art Bronze Co.....
 Milburn, Heister & Co.....
 Milnor Steel Co.....
 Miller & Asso., Wendell P.....
 Miller Co.....
 Milwaukee Electric Crane & Hoist Corp.....
 Missouri-Kansas-Texas Lines.....
 Moccasin Bushing Co.....
 Model Land Co. (Flagler System).....
 Moeschl-Edwards Corrugating Co.....
 Moffatt Machinery Mfg. Co.....
 Monahan Mfg. Corp.....
 Moore Dry Kiln Co.....
 Moore, H. C.....
 Morgan Construction Co.....
 Morris Machine Works.....
 Morse Chain Co.....
 Mott Core Drilling Co.....
 Moyer Co., Tilghman.....
 Mueller Co.....
 Muller, Arthur L.....
 Mundt & Sons, Chas.....
 Mundy Hoisting Engine Co., J. S.....
 Murphy's Hotel.....
 Myers & Bro. Co., F. E.....

N

Nashville Bridge Co.....
 Nashville Hardwood Flooring Co.....
 Nashville Industrial Corp.....
 National Blow Pipe & Mfg. Co., Ltd.....
 National Cast Iron Pipe Co.....
 National Equipment Corp.....
 National Paving Brick Mfrs. Asso.....
 National Traffic Guard Co.....
 National Tube Co.....
 Newport News Shipbuilding & Dry Dock Co.....
 Norfolk & Western Railway.....
 Northwest Engineering Co.....
 Novo Engine Co.....
 Nussbaum & Co., V. M.....
 Nutting Truck Co.....
 Nuveen & Co., John.....

O

O'Brien Mehry, Co., The.....
 Ohio Power Shovel Co.....
 O. K. Clutch & Machinery Co.....
 Okonite Co.....
 Old Dominion Box Co., Inc.....
 Ophule & Hill.....
 Owen Bucket Co., The.....
 Owensboro Sewer Pipe Co.....

P

Pacific Flush-Tank Co.....
 Page Fence Association.....
 Patent Scaffolding Co.....
 Patterson Co., W. W.....
 Peelle Co., The.....
 Penn Mehry, Co., H. O.....
 Pennsylvania Drilling Co.....
 Perry, Buxton, Doane Co.....
 Phoenix Iron Co., The.....
 Platt, Wm. M.....
 Picard Laboratories, The.....
 Pidgeon-Thomas Iron Co.....
 Pipe Railing Constr. Co.....
 Pittsburgh-Des Moines Steel Co.....
 Pittsburgh Piping & Equip. Co.....
 Pittsburgh Testing Laboratory.....
 Platt Iron Works.....
 Poe Piping & Heating Co.....
 Porter Co., H. K.....
 Portland Cement Ass'n.....
 P. O. Box 1844.....
 Power Piping Co.....
 Preacher & Co., Inc., G. Lloyd.....
 Price, J. E.....
 Progressive Mfg. Co., The.....
 Proposal Advertisements.....
 Provident Savings Bank & Trust Co.....

Q

Quincy Compressor Co.....
 Quinn Wire & Iron Works.....

R

Randle Mehry, Co., The.....
 Raymond Bros. Impact Pulv. Co.....
 Raymond Mfg. Co.....
 Reading Iron Co.....
 Rees, S. P.....
 Republic Rubber Co.....
 Republic Steel Corp.....
 Reasle Dept.....
 Richards-Wilcox Mfg. Co.....
 Richmond Structural Steel Co.....
 Ripley Fdry. & Machine Co.....
 Roanoke Iron & Bridge Works.....
 Robert & Co.....
 Roberts Filter Mfg. Co.....
 Robertson Co., H. H.....
 Robinson-Humphrey Co.....
 Robinson & Orr.....
 Rockford Power Machinery Co.....
 Roebing's Sons Co., John A.....
 Rundle-Spence Mfg. Co.....
 Russell, Burdall & Ward Bolt & Nut Co.....
 Rust Engineering Co.....
 Ryerson & Sons, Inc., Jos. T.....

S

St. Paul Welding & Mfg. Co.....
 Salem Foundry & Machine Works.....
 Sanderson & Porter.....
 Saegen Derrick Co.....
 Sauerman Bros., Inc.....
 Savannah Creosoting Co.....
 Saville, Inc., Allen J.....
 Scaife & Sons Co., Wm. B.....
 Schofield's Sons Co., J. S.....
 Schults & Son, A. L.....
 Scofield Engineering Co.....
 Sebastian Lathe Co.....
 Service Caster & Truck Co.....
 Serviced Products Corp.....
 Serviced Premoulded Products, Inc.....
 Seyfert's Sons Co., L. F.....
 Shaw Co., B. Russell.....
 Shore-Line Builders, Inc.....
 Simmons Inc. & Asso., B. Stanley.....
 Simplicity System Co.....
 Skirine & Co., J. E.....
 Skinner Bros. Mfg. Co., Inc.....
 Sloes-Sheffield Steel & Iron Co.....
 Smith Corp., A. O.....
 Smith, Elroy G.....
 Smith Co., S. Morgan.....
 Smith & Son Co., Oscar T.....
 Smith & Co., W. M.....
 Snare Corp., Frederick.....
 Sneed Architectural Iron Works.....
 Sonneborn Sons, Inc., L.....
 Southern Drilling Co.....
 Southern Engineering Co.....
 Southern Hotel, The.....
 Southern Iron & Equip. Co.....
 Southern Spindle & Flyer Co.....
 Southwestern Laboratories.....
 Spoon & Lewis.....
 Sprague & Henwood, Inc.....
 Spring, Charles Herbert.....
 Steel and Leiby.....
 Steele & Sons, J. C.....
 Stephens-Adams Mfg. Co.....
 Sterling Engine Co.....
 Sterling Wheelbarrow Co.....
 Stewart & Co., Paul.....
 Stewart Iron Works.....
 Stillman and Van Sicken, Inc.....
 Stone & Webster Engineering Corp.....
 Stonhard Co.....
 Strand & Co., N. A.....
 Street Bros. Machine Works.....
 Stuebner Iron Works, Inc., G. L.....
 Sullivan Machinery Co.....
 Swartwout Co.....
 Sweet's Steel Co.....
 Swenson Evaporator Co.....

T

Table of Contents.....
 Taylor-Colquitt Co.....
 Taylor Forge & Pipe Works.....
 Taylor Co., Halsey W.....
 Taylor Sons Co., Chas.....
 Taylor, Wilson & Co., Inc.....
 Tennessee Central Railway.....
 Tennessee Coal, Iron & Railroad Co.....
 Tennessee Metal Culvert Co.....
 Texas Power & Light Co.....
 Thew Shovel Co., The.....
 Thompson & Bros., T. C.....
 Timken Roller Bearing Co.....
 Titusville Iron Works Co.....

Trackson Co.....
 Truscon Steel Co.....
 Truscon Steel Co. (Pressed Steel Division).....
 Tucker & Lorton.....
 Turner, C. A. P.....

U

Union Steam Pump Co.....
 Union Tank & Pipe Co.....
 U. S. Pipe & Foundry Co.....
 Universal Crane Co., The.....
 Universal Crusher Co.....
 Universal Power Shovel Co.....
 U. S. Phosphoric Products Corp.....

V

Veeder-Root Inc.....
 Victoria Paper Mills Co.....
 Viking Pump Co.....
 Virginia Bridge & Iron Co.....
 Virginia Central Railway.....
 Virginia Mehry, & Well Co.....
 Vogt Bros. Mfg. Co.....
 Vogt Machine Co., Henry.....

W

Wadleigh & Bailey.....
 Wales Wood Preserving Co.....
 Walker Electrical Co.....
 Wall Mfg. Supply Co., P.....
 Wappat, Inc.....
 Warner Service Co.....
 Webb Electric Co.....
 Weber Co., F.....
 Webster & Waller Mfg. Companies.....
 Weller & Co.....
 Western Electric Co.....
 Western Metal Mfg. Co.....
 Westinghouse Electric & Mfg. Co.....
 Westinghouse Traction Brake Co.....
 Wheeler, Walter H.....
 Whitaker Paper Co.....
 Whitcomb Co., George D.....
 White Co., Gilbert C.....
 White Engineering Corp., The J. G.....
 Whiting Corp.....
 Whitney Metal Tool Co.....
 Widmer Engineering Co.....
 Wiedeman and Singleton, Inc.....
 Wiley & Co., Inc.....
 Wiley & Wilson.....
 Williamson, Lee H.....
 Wilson Corp., The J. G.....
 Wisconsin Motor Co.....
 W-K-M Co., Inc.....
 Wood & Co., R. D.....
 Woodhouse Chain Works.....
 Wood's Sons Co., T. B.....
 Woodstock Slag Corp.....
 Woolford Wood Tank Mfg. Co., G.....

Y

Yoder Co., The.....
 Young & Selden Co.....
 Youngstown Sheet & Tube Co.....

Z

Zelnicker in St. Louis.....

Advs. marked † not in this issue.
 Advs. marked ‡ appear in first issue of month.
 Advs. marked * appear every other week.

Classified
 Opportunities } Pages 96-97

Proposal
 Advertisements } Pages 94 to 96

Resale
 Department } Pages 93 to 102 (2-30)

DAILY CONSTRUCTION BULLETIN

A Daily News Service Published by MANUFACTURERS RECORD, Baltimore, Md.

Gives advance, detailed information covering business opportunities and proposed developments throughout the South from Maryland to Texas.

New construction work, engineering projects, industrial development, building operations, public improvement work of all kinds, the organization of new firms for every purpose and other important phases of the South's progress are systematically reported, making the service of the utmost value to every firm seeking business in the South.

Sample copies, subscription and advertising rates upon request.



No More Hiding

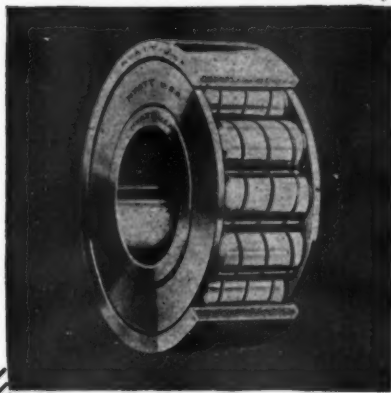
Inaccuracies in depreciating property or in accounting for expenditures on it mean, inevitably, hidden assets or hidden liabilities. Rumor spreads. Stockholders are misled. American Appraisal Service brings out the facts, scotches rumor, reassures stockholders.

THE AMERICAN APPRAISAL COMPANY

Atlanta	Charlotte	Detroit	Minneapolis	Portland, Ore.
Baltimore	Chicago	Indianapolis	New Orleans	San Francisco
Boston	Cincinnati	Kansas City	New York	Seattle
Buffalo	Cleveland	Los Angeles	Philadelphia	St. Louis
Chattanooga	Dallas	Milwaukee	Pittsburgh	Syracuse
Washington		Berlin, Germany	Tulsa	

Canadian Appraisal Company, Ltd., Montreal, Toronto and Winnipeg
The Anglo-American Appraisal Company, Ltd., London, England

AN INTERNATIONAL ORGANIZATION



ALL your mechanical equipment needs the kind of protection that Hyatt Roller Bearings afford.

Longer bearing life, smoother operation, capacity to withstand punishment and unusual strains, freedom from constant oiling, adjustments, and shut downs for bearing repairs—these are the advantages of Hyatt protection.

The Hyatt Roller Bearings that are in service on practically every type of equipment today are proving the worth-while economies effected by these better bearings.

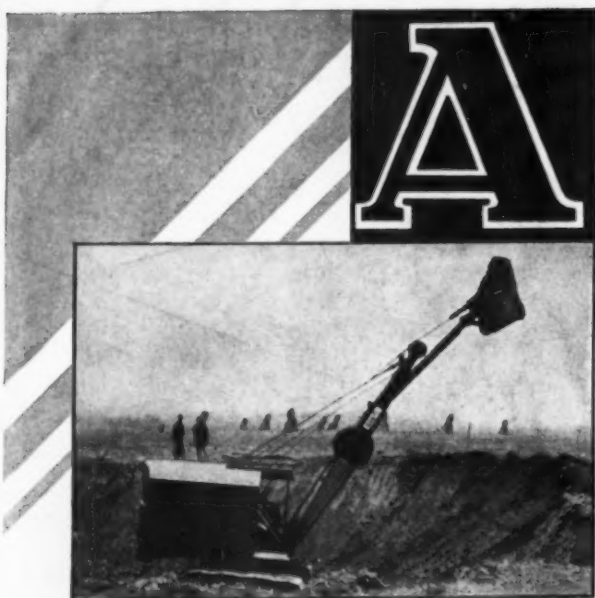
Specify Hyatt Roller Bearings on your next order for new equipment. Hyatt protection, you will find, is a profitable investment.

HYATT ROLLER BEARING COMPANY

Newark Detroit Chicago Pittsburgh Oakland

HYATT
ROLLER BEARINGS

PRODUCT OF GENERAL MOTORS



**LORAIN machine
with Center Drive
Shovel boom, will
reach out farther,**

**dig and dump higher up than any
other shovel of equal length boom
and dipper stick. And it will dig
deeper below the treads. ▲ ▲ ▲ ▲**

THE THEW SHOVEL COMPANY • LORAIN, OHIO

THEW LORAIN
45 .. 55 .. 75 ..

Southeast Sales Office:
First National Bank Bldg.,
Atlanta, Ga.

Southwest Sales Office:
1415 Magnolia Bldg.,
Dallas, Texas



